PB-230 930

# OREGON EMISSION INVENTORY DATA CONVERSION

TRW, Incorporated
McLean, Virginia

12 November 1973

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The National Emissions Data System (NEDS) was designed by the Environmental Protection Agency to be a central repository for all emissions inventory data. Since the inception of NEDS, the major concern of EPA has been the accumulation of an acceptable data base. After the Oregon state inventory data were converted to NEDS format, the NEDS inventory and the Oregon inventory did not correlate. This report describes the development and implementation of a computer program which could read the Oregon data files and convert the data present to a format acceptable for input to the NEDS system. The methodology used to develop this program is presented. Much of the data required some degree of conversion. A discussion is included of each of three tables used by the program to convert the data which could not be used directly. The purpose of each program is described and a system flow chart is illustrated. This program gives the state the capability of producing their inventory in NEDS format to meet any requirements from EPA.

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12 November 1973

Prepared For

Environmental Protection Agency
Region X
1200 Sixth Avenue
Seattle, Washington 98101

Prepared By

TRW / TRANSPORTATION & ENVIRONMENTAL OPERATIONS
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# 1.0 INTRODUCTION AND BACKGROUND

## 1.1 GENERAL DESCRIPTION OF THE NATIONAL EMISSIONS DATA SYSTEM (NEDS)

The National Emissions Data System (NEDS) was designed by the Office of Air Programs of the Environmental Protection Agency to be a central repository for all emissions inventory data. These data have for many years been stored by local or state agencies in forms ranging from hand-written entries on three by five index cards to highly sophisticated computer storage systems. As control officials began to recognize that air pollution problems knew no jurisdictional boundaries, they began to feel the need for a centralized data storage system in a standardized format which could be easily understood by everyone. NEDS was fashioned with these goals in mind.

When fully operational, NEDS will give air pollution officials at all levels an extremely valuable tool with which they can ascertain among other things:

- Where their problem areas lie
- The effect of existing control regulations
- The effect of proposed control regulations

The system will be easily accessible to all officials who have a need for the detailed data contained in the system. Additionally, abbreviated summaries will serve as a source of quick reference data whenever detailed data is not needed. The designers of the system designated a great amount of thus far unformatted storage space for use by the Regional or State agencies to store data uniquely related to their specific needs. This portion of the system is called the NEDS Variable Data Subsystem, and together with the basic system itself, should more than adequately satisfy all emission inventory related needs.

## 1.2 INITIAL DATA ACCUMULATION EFFORT

Since the inception of NEDS, the major concern of the Environmental Protection Agency has been the accumulation of an acceptable data base. Much of the work has been done by personnel from the Office of Air Programs,

but a great deal of it has been contracted out to private contractors. A task of this nature is beset with many inherent problems. In its development stages, the manual describing the NEDS system and its coding procedures was inadequate in many areas and left room for a great amount of personal interpretation of the rules. The fact that many different individuals were trying to use this manual further contributed to a lack of one of the principal goals of NEDS -- standardization. Other problems developed from the fact that many state inventories (the source of the initial data which were input to NEDS) were in various states of completeness, correctness, and currency.

After the state inventory data were converted to NEDS format, the NEDS inventories were submitted to the states for verification. Not surprisingly, in light of the above discussion of problems encountered, as well as the fact that the state personnel were unfamiliar with NEDS, many states were totally unable to find any correlation between the NEDS inventory, and their own. This posed a serious problem for EPA. Their solution, in the case of Oregon is the subject of the remainder of this report.

## 1.3 NEED FOR FURTHER EFFORT

Oregon was one of the states in which no correlation between the two inventories could be found. Not only could they establish no relationship between individual sources of emissions, but the Oregon agency was unable to make their plant-site or county totals agree with those of NEDS. It was obvious that a major updating and correcting effort was required before the Oregon NEDS data could be used for any purpose at all.

Partially because of the size of the Oregon inventory, EPA decided that another manual attempt at compiling a detailed emission inventory would be fruitless. Since the Oregon system contained many of the data elements required by NEDS with only minimal reformatting needed, EPA's Region X personnel agreed to attempt a computerized conversion to NEDS format.

Under an existing Emissions Inventory Basic Ordering Agreement (BOA), TRW was awarded a contract to develop and implement a computer program

which could read the Oregon data files and convert the data present to a format which was acceptable for input to the NEDS system. Section 2.0 of this report deals with the methodology used to develop this program.

# 2.0 PROGRAM DEVELOPMENT

## 2.1 THE OREGON DATA STORAGE SYSTEM

The Oregon data storage system is divided into two separate files. One file, called the Registration (abbreviated REG) File contains information about a plant site. This includes name and address, UTM coordinates, person to be contacted on air pollution matters, etc. The other file is the BEC File, and it contains information unique to a specific piece of equipment within a plant. Items stored in this file included emission rates, process rates, pollution control equipment, etc. To obtain all the information available about a particular source, it is necessary to examine two records -- one from each file.

The first step in the process of developing the conversion program was the investigation of the existing data storage system presently in use in Oregon. Table 2-1 shows the data elements contained in the Oregon system indicating their applicability to the NEDS system. Data elements required by NEDS are listed in Table 2-2 along with an indication of whether they are present in the Oregon system.

## 2.2 CONVERSION OF THE DATA

Some of the data elements in the Oregon system could be transferred directly to NEDS format with no change. However, much of the data required some degree of conversion. Following is a discussion of each of the three tables used by the program to convert the data which could not be used directly.

- CITY/COUNTY Conversion Table - The Oregon System stores a two-digit number indicating the county in which a source is located, and another indicating the city. These two two-digit numbers are combined by the program to form a four-digit number (county first, then city), and this number is used as the argument for entering the CITY/COUNTY Conversion Table (Table 2-3). Since the Oregon system contains data on some sources in the State of Washington, code conversions for Washington (first two digits greater than or equal to 40) are included in the table. From this table, the

TABLE 2-1

Applicability of Oregon Data Elements to NEDS

| Applicability* | Data Elements |
|---|---|
| A/c | County Number |
| A | Sequence Number |
| | SIC Number |
| A/c | Date of Record |
| A | Firm Name |
| A | Firm Mailing Address |
| A/c | City Code |
| | Zip Code |
| A/c | UTM Zone Code |
| A/c | UTM X-Coordinates |
| A/c | UTM Y-Coordinates |
| | Number of BEC cards |
| A | Air Pollution Contact |
| | Job Title Code |
| | Phone Number |
| | Primary Product |
| | Secondary Product |
| | Number of Employees |
| | Enclosed Floor Space |
| | Code for Space Heating Energy Source |
| | Refuse Disposal Method |
| | Haulaway Refuse |
| | Hourly Process Rate |
| | UTM Grid Number |
| | BEC Number |
| | ID Number |
| | Primary or Secondary Fuel Consumption Code |
| A/c | Type Factor |
| | Number of Identical units |
| | Reinspect Interval |
| A/c | Primary Control Equipment Code |
| A/c | Secondary Control Equipment Code |
| | Tertiary Control Equipment Code |

TABLE 2-1 (Cont.)

| | |
|---|---|
| | Height Above the Ground |
| | Ground Elevation Above Sea Level |
| A/c | Annual Process Weight |
| | Low Reactive HC Emissions |
| | High Reactive HC Emissions |
| A | Total Organic Emissions |
| | Fine Particulate Emissions |
| A | Total Particulate Emissions |
| A | $NO_x$ Emissions |
| A | $SO_x$ Emissions |
| A | CO Emissions |
| | Other Inorganic Emissions |

* A = Directly applicable to NEDS
A/c = Applicable with conversion

TABLE 2-2

Presence of NEDS Data Elements in Oregon System

| Presence* | NEDS Data Elements |
|---|---|
| P/c | State |
| P/c | County |
| P/c | AQCR |
| P | Plant ID |
| P/c | City |
| P/c | UTM Zone |
| P/c | Year of Record |
| P | Name and Address |
| P | Contact-Personal |
| | Ownership |
| | Point ID |
| P/c | SIC |
| P/c | IPP Process |
| P/c | UTM Coordinates |
| | Stack Data |
| | Boiler Design Capacity |
| P/c | Primary Particulate Control Equipment |
| P/c | Secondary Particulate Control Equipment |
| | Other Pollutants Control Equipment |
| | Estimated Control Efficiencies |
| | Percent Annual Throughput |
| | Operating Schedule |
| P | Emission Estimates |
| P/c | Emission Estimate Methods |
| | Percent Space Heat |
| | Compliance Data |
| P/c | SCC |
| P/c | Process Rate |
| | Maximum Design Rate |
| | Fuel Parameters |
| P/c | Source Type |
| | Confidentiality |

* P = Present in Oregon System

P/c = Present after some conversion

TABLE 2-3

CITY/COUNTY Conversion Table

| Oregon | NEDS County | NEDS AQCR | NEDS City |
|---|---|---|---|
| 0100 | 0120 | 191 | |
| 0104 | 0120 | " | 0100 |
| 0110 | 0120 | " | |
| 0112 | 0120 | " | |
| 0114 | 0120 | " | |
| 0120 | 0120 | " | |
| 0122 | 0120 | " | |
| 0200 | 0200 | 193 | |
| 0204 | 0200 | " | 0380 |
| 0208 | 0200 | " | |
| 0210 | 0200 | " | |
| 0300 | 0260 | " | |
| 0304 | " | " | |
| 0307 | " | " | |
| 0310 | " | " | |
| 0313 | " | " | 0245 |
| 0316 | " | " | |
| 0319 | " | " | |
| 0322 | " | " | |
| 0325 | " | " | |
| 0328 | " | " | |
| 0331 | " | " | 0640 |
| 0334 | " | " | |
| 0337 | " | " | |
| 0340 | " | " | 0990 |
| 0343 | " | " | 1200 |
| 0346 | " | " | |
| 0349 | " | " | |
| 0352 | " | " | |
| 0355 | " | " | 1380 |
| 0358 | " | " | |
| 0361 | " | " | |
| 0364 | 0260 | 193 | |
| 0367 | " | " | |
| 0370 | " | " | 1880 |
| 0373 | " | " | |
| 0400 | 0280 | 192 | |
| 0402 | " | " | 0080 |
| 0405 | " | " | |
| 0409 | " | " | |
| 0412 | " | " | |
| 0417 | " | " | |
| 0420 | " | " | |
| 0500 | 0300 | 193 | |
| 0504 | " | " | |
| 0507 | " | " | |
| 0510 | " | " | |
| 0513 | " | " | |
| 0516 | " | " | |
| 0519 | " | " | |
| 0522 | " | " | |
| 0525 | " | " | |
| 0528 | " | " | 1560 |
| 0531 | " | " | |
| 0534 | " | " | |
| 0537 | " | " | |
| 0600 | 0320 | 194 | |
| 0604 | " | " | |
| 0607 | " | " | 0340 |
| 0610 | " | " | 0360 |
| 0613 | " | " | |
| 0616 | " | " | 1260 |
| 0619 | " | " | 1320 |
| 0622 | " | " | |

TABLE 2-3 (Cont.)

| | | | |
|---|---|---|---|
| 0700 | 0420 | 190 | |
| 0704 | " | " | 1480 |
| 0800 | 0440 | 194 | |
| 0804 | " | " | 0220 |
| 0810 | " | " | |
| 0814 | " | " | |
| 0900 | 0500 | 190 | |
| 0904 | " | " | 0180 |
| 0910 | " | " | 1500 |
| 0913 | " | " | |
| 1000 | 0520 | 194 | |
| 1004 | " | " | |
| 1007 | " | " | |
| 1010 | " | " | |
| 1013 | " | " | |
| 1015 | " | " | 1250 |
| 1018 | " | " | |
| 1021 | " | " | 1520 |
| 1024 | " | " | |
| 1027 | " | " | 1540 |
| 1030 | " | " | 1690 |
| 1033 | " | " | |
| 1036 | " | " | |
| 1100 | 0620 | 191 | |
| 1102 | " | " | |
| 1105 | " | " | |
| 1108 | " | " | |
| 1200 | 0660 | 191 | |
| 1204 | " | " | |
| 1207 | " | " | |
| 1210 | " | " | |
| 1213 | " | " | |
| 1216 | " | " | |
| 1219 | " | " | |
| 1222 | " | " | |
| 1225 | 0660 | 191 | |
| 1300 | 0720 | 191 | |
| 1304 | " | " | 0240 |
| 1307 | " | " | |
| 1400 | 0820 | 190 | |
| 1404 | " | " | |
| 1407 | " | " | 0800 |
| 1500 | 0840 | 194 | |
| 1502 | " | " | 0060 |
| 1505 | " | " | |
| 1508 | " | " | 0250 |
| 1511 | " | " | |
| 1514 | " | " | |
| 1517 | " | " | |
| 1520 | " | " | 1160 |
| 1523 | " | " | |
| 1526 | " | " | |
| 1529 | " | " | |
| 1600 | 0860 | 190 | |
| 1602 | " | " | |
| 1606 | " | " | |
| 1609 | " | " | |
| 1700 | 0880 | 194 | |
| 1704 | " | " | |
| 1707 | " | " | 0680 |
| 1800 | 0920 | 190 | |
| 1804 | " | " | |
| 1807 | " | " | |
| 1810 | " | " | 0940 |
| 1813 | " | " | |
| 1816 | " | " | |
| 1900 | 0980 | 190 | |
| 1906 | " | " | 1000 |
| 1909 | " | " | |
| 2000 | 1020 | 193 | |

TABLE 2-3 (Cont.)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2006 | 1020 | 193 | | 2316 | 1120 | 191 | |
| 2009 | " | " | 0400 | 2400 | 1140 | 193 | |
| 2012 | " | " | | 2402 | " | " | |
| 2015 | " | " | | 2405 | " | " | |
| 2018 | " | " | 0560 | 2411 | " | " | |
| 2021 | " | " | | 2414 | " | " | |
| 2024 | " | " | | 2417 | " | " | |
| 2027 | " | " | | 2420 | " | " | |
| 2030 | " | " | 1350 | 2423 | " | " | |
| 2033 | " | " | 1680 | 2426 | " | " | |
| 2036 | " | " | | 2429 | " | " | |
| 2100 | " | " | | 2432 | " | " | |
| 2106 | 1060 | 192 | 1065 | 2435 | " | " | |
| 2109 | " | " | 1300 | 2438 | " | " | 1580 |
| 2115 | " | " | 1300 | 2441 | " | " | |
| 2118 | " | " | 1760 | 2444 | " | " | 1660 |
| 2121 | " | " | | 2447 | " | " | 1685 |
| 2124 | " | " | | 2450 | " | " | |
| 2200 | 1080 | 193 | | 2453 | " | " | |
| 2202 | " | " | 0020 | 2456 | " | " | 1920 |
| 2205 | " | " | | 2500 | 1220 | 191 | |
| 2208 | " | " | | 2504 | " | " | |
| 2211 | " | " | | 2507 | " | " | |
| 2214 | " | " | 1040 | 2510 | " | " | |
| 2217 | " | " | | 2513 | " | " | |
| 2220 | " | " | | 2516 | " | " | |
| 2223 | " | " | | 2600 | 1240 | 193 | |
| 2236 | " | " | | 2602 | " | " | |
| 2229 | " | " | 1700 | 2605 | " | " | |
| 2232 | " | " | | 2608 | " | " | 0700 |
| 2300 | 1120 | 191 | | 2611 | " | " | |
| 2304 | " | " | | 2614 | " | " | 1460 |
| 2307 | " | " | | 2617 | " | " | |
| 2310 | " | " | 1340 | 2620 | " | " | |
| 2313 | " | " | 1360 | 2700 | 1440 | 193 | |

TABLE 2-3 (Cont.)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2704 | 1440 | 193 | 0460 | 3119 | 1800 | 191 | |
| 2707 | " | " | | 3122 | " | " | |
| 2710 | " | " | 0830 | 3125 | " | " | |
| 2713 | " | " | 1210 | 3200 | 1820 | 191 | |
| 2800 | 1640 | 190 | | 3204 | " | " | |
| 2804 | " | " | | 3207 | " | " | |
| 2807 | " | " | | 3210 | " | " | |
| 2810 | " | " | | 3213 | " | " | |
| 2813 | " | " | | 3300 | 1840 | 190 | |
| 2900 | 1740 | 192 | | 3302 | " | " | |
| 2904 | " | " | | 3305 | " | " | |
| 2907 | " | " | | 3308 | " | " | |
| 2910 | " | " | | 3311 | " | " | |
| 2913 | " | " | | 3314 | " | " | |
| 2916 | " | " | | 3317 | " | " | 0255 |
| 2919 | " | " | 1720 | 3400 | 1860 | 193 | |
| 2922 | " | " | | 3404 | " | " | |
| 3000 | 1780 | 191 | | 3407 | " | " | |
| 3002 | " | " | | 3410 | " | " | 0160 |
| 3005 | " | " | | 3413 | " | " | |
| 3008 | " | " | | 3416 | " | " | |
| 3011 | " | " | | 3419 | " | " | |
| 3014 | " | " | 0760 | 3422 | " | " | |
| 3017 | " | " | 1180 | 3425 | " | " | 0580 |
| 3020 | " | " | 1420 | 3428 | " | " | |
| 3023 | " | " | | 3431 | " | " | |
| 3026 | " | " | | 3434 | " | " | 0780 |
| 3029 | " | " | | 3437 | " | " | |
| 3032 | " | " | | 3440 | " | " | |
| 3100 | 1800 | 191 | | 3443 | " | " | |
| 3104 | " | " | | 3446 | " | " | |
| 3107 | " | " | | 3449 | " | " | |
| 3110 | " | " | | 3452 | " | " | 1710 |
| 3113 | " | " | | 3455 | " | " | |
| 3116 | " | " | 0960 | 3458 | " | " | |

TABLE 2-3 (Cont.)

| | | | |
|---|---|---|---|
| 3500 | 1900 | 191 | |
| 3504 | " | " | |
| 3507 | " | " | |
| 3510 | " | " | |
| 3600 | 1940 | 193 | |
| 3602 | " | " | |
| 3605 | " | " | |
| 3608 | " | " | |
| 3611 | " | " | |
| 3614 | " | " | |
| 3617 | " | " | 1100 |
| 3620 | " | " | 1280 |
| 3623 | " | " | |
| 3626 | " | " | |
| 3629 | " | " | |
| 4000 | 0040 | 062 | |
| 4033 | " | " | |
| 4044 | " | " | |
| 4060 | " | " | 1460 |
| 4072 | " | " | |
| 4090 | " | " | |
| 4100 | 0080 | 062 | |
| 4102 | " | " | |
| 4114 | " | " | 0380 |
| 4200 | 0160 | 230 | |
| 4206 | " | " | |
| 4240 | " | " | 0940 |
| 4266 | " | " | 1660 |
| 4272 | " | " | 1780 |
| 4290 | " | " | |
| 4300 | 0300 | 227 | |
| 4314 | " | " | |
| 4316 | " | " | |
| 4322 | " | " | 0580 |
| 4344 | " | " | |
| 4390 | 0300 | 227 | 2340 |
| 4400 | 0340 | 228 | |
| 4426 | " | " | |
| 4466 | " | " | 1600 |
| 4476 | " | " | |
| 4500 | 0360 | 193 | |
| 4506 | " | " | |
| 4514 | " | " | 0240 |
| 4544 | " | " | |
| 4572 | " | " | |
| 4588 | " | " | 2220 |
| 4590 | " | " | 2320 |
| 4596 | " | " | |
| 4600 | 0440 | 062 | |
| 4618 | " | " | 0500 |
| 4676 | " | " | |
| 4700 | 0480 | 193 | |
| 4714 | " | " | |
| 4740 | " | " | |
| 4742 | " | " | 0920 |
| 4744 | " | " | 1140 |
| 4790 | " | " | |
| 4800 | 0520 | 227 | |
| 4806 | " | " | |
| 4822 | " | " | |
| 4848 | " | " | |
| 4872 | " | " | |
| 4890 | " | " | |
| 4900 | 0680 | 227 | |
| 4972 | " | " | |
| 5000 | 0720 | 230 | |
| 5014 | " | " | |
| 5040 | " | " | |
| 5048 | " | " | |
| 5066 | " | " | 1500 |

TABLE 2-3 (Cont.)

| | | | |
|---|---|---|---|
| 5100 | 0760 | 062 | |
| 5166 | " | " | |
| 5200 | 0820 | 062 | |
| 5214 | " | " | |
| 5222 | " | " | |
| 5224 | " | " | 0620 |
| 5230 | " | " | |
| 5231 | " | " | |
| 5233 | " | " | |
| 5240 | " | " | |
| 5248 | " | " | |
| 5250 | " | " | 1260 |
| 5270 | " | " | 1720 |
| 5272 | " | " | |
| 5276 | " | " | |
| 5290 | " | " | |
| 5292 | " | " | |
| 5294 | " | " | |
| 5300 | 0840 | 228 | |
| 5302 | " | " | 0020 |
| 5314 | " | " | |
| 5322 | " | " | |
| 5333 | " | " | 0860 |
| 5348 | " | " | |
| 5350 | " | " | 1256 |
| 5360 | " | " | |
| 5390 | " | " | |
| 5400 | 0880 | 228 | |
| 5414 | " | " | |
| 5444 | " | " | |
| 5460 | " | " | 1360 |
| 5500 | 0900 | 228 | |
| 5566 | " | " | 1640 |
| 5600 | 0980 | 229 | |
| 5602 | " | " | |
| 5604 | 0980 | 229 | 0100 |
| 5606 | " | " | |
| 5608 | " | " | 0120 |
| 5610 | " | " | |
| 5612 | " | " | 0170 |
| 5614 | " | " | |
| 5616 | " | " | 0390 |
| 5618 | " | " | 0510 |
| 5620 | " | " | |
| 5622 | " | " | 0600 |
| 5633 | " | " | |
| 5635 | " | " | |
| 5637 | " | " | 0890 |
| 5640 | " | " | 0960 |
| 5642 | " | " | 1000 |
| 5644 | " | " | 1090 |
| 5648 | " | " | 1243 |
| 5650 | " | " | 1246 |
| 5651 | " | " | |
| 5656 | " | " | 1340 |
| 5658 | " | " | |
| 5666 | " | " | |
| 5672 | " | " | 1750 |
| 5674 | " | " | 1760 |
| 5676 | " | " | 1840 |
| 5678 | " | " | |
| 5680 | " | " | |
| 5682 | " | " | 2195 |
| 5696 | " | " | |
| 5700 | 1020 | 229 | |
| 5706 | " | " | 0180 |
| 5766 | " | " | 1620 |
| 5768 | " | " | |
| 5790 | " | " | |
| 5800 | 1040 | 230 | |

TABLE 2-3 (Cont.)

| | | | |
|---|---|---|---|
| 5814 | 1040 | 230 | |
| 5822 | " | " | 0560 |
| 5840 | " | " | |
| 5872 | " | " | |
| 5876 | " | " | |
| 5900 | 1060 | 230 | |
| 5906 | " | " | |
| 5930 | " | " | 0780 |
| 5990 | " | " | |
| 6000 | 1100 | 193 | |
| 6014 | " | " | 0260 |
| 6016 | " | " | 0280 |
| 6048 | " | " | |
| 6050 | " | " | |
| 6056 | " | " | |
| 6066 | " | " | |
| 6082 | " | " | |
| 6088 | " | " | |
| 6090 | " | " | |
| 6100 | 1120 | 062 | |
| 6102 | " | " | |
| 6114 | " | " | |
| 6118 | " | " | |
| 6133 | " | " | |
| 6160 | " | " | |
| 6172 | " | " | |
| 6176 | " | " | |
| 6190 | " | " | |
| 6200 | 1220 | 228 | |
| 6276 | " | " | 1900 |
| 6300 | 1380 | 227 | |
| 6306 | " | " | |
| 6314 | " | " | |
| 6316 | " | " | |
| 6322 | " | " | |
| 6356 | 1380 | 227 | |
| 6360 | " | " | |
| 6362 | " | " | 1420 |
| 6364 | " | " | |
| 6366 | " | " | |
| 6372 | " | " | |
| 6382 | " | " | |
| 6384 | " | " | |
| 6390 | " | " | |
| 6400 | 1480 | 228 | |
| 6437 | " | " | |
| 6444 | " | " | |
| 6472 | " | " | 1740 |
| 6476 | " | " | |
| 6500 | 1540 | 227 | |
| 6514 | " | " | |
| 6537 | " | " | |
| 6548 | " | " | |
| 6550 | " | " | |
| 6556 | " | " | |
| 6600 | 1560 | 229 | |
| 6606 | " | " | |
| 6608 | " | " | 0200 |
| 6614 | " | " | |
| 6618 | " | " | |
| 6622 | " | " | |
| 6626 | " | " | |
| 6628 | " | " | 0700 |
| 6630 | " | " | |
| 6648 | " | " | 1250 |
| 6660 | " | " | |
| 6666 | " | " | 1700 |
| 6672 | " | " | |
| 6674 | " | " | |
| 6676 | " | " | |

TABLE 2-3 (Cont.)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6678 | 1560 | 229 | 2070 | 7080 | 2000 | 229 | |
| 6680 | " | " | 2100 | 7090 | " | " | |
| 6682 | " | " | 2140 | 7100 | 2060 | 062 | |
| 6690 | " | " | | 7102 | " | " | |
| 6700 | 1820 | 228 | | 7114 | " | " | 0320 |
| 6726 | " | " | | 7118 | " | " | |
| 6800 | 1940 | 228 | | 7126 | " | " | |
| 6802 | " | " | 0060 | 7144 | " | " | |
| 6806 | " | " | 0220 | 7148 | " | " | 1240 |
| 6814 | " | " | | 7150 | " | " | |
| 6833 | " | " | | 7172 | " | " | |
| 6844 | " | " | | 7176 | " | " | |
| 6846 | " | " | | 7178 | " | " | 2040 |
| 6848 | " | " | 1300 | 7190 | " | " | |
| 6876 | " | " | 1860 | 7200 | 2080 | 227 | |
| 6900 | 1960 | 193 | | 7214 | " | " | |
| 6956 | " | " | | 7216 | " | " | 0460 |
| 6976 | " | " | | 7240 | " | " | |
| 7000 | 2000 | 229 | | 7248 | " | " | |
| 7002 | " | " | | 7256 | " | " | |
| 7006 | " | " | 0190 | 7276 | " | " | |
| 7018 | " | " | | 7300 | 2180 | 228 | |
| 7022 | " | " | 0540 | 7306 | " | " | |
| 7024 | " | " | 0640 | 7344 | " | " | 1080 |
| 7030 | " | " | | 7360 | " | " | 1400 |
| 7031 | " | " | | 7372 | " | " | |
| 7037 | " | " | | 7382 | " | " | |
| 7044 | " | " | | 7384 | " | " | 2200 |
| 7046 | " | " | 1180 | 7396 | " | " | |
| 7048 | " | " | 1200 | 7400 | 2240 | 193 | |
| 7050 | " | " | 1253 | 7414 | " | " | |
| 7052 | " | " | 1280 | 7500 | 2280 | 230 | |
| 7054 | " | " | | 7514 | " | " | 0420 |
| 7076 | " | " | 1980 | 7566 | " | " | |
| 7078 | " | " | | 7590 | " | " | |

TABLE 2-3 (Cont.)

| | | | |
|---|---|---|---|
| 7592 | 2280 | 230 | 2260 |
| 7600 | 2400 | 228 | |
| 7606 | " | " | 0140 |
| 7608 | " | " | |
| 7622 | " | " | |
| 7626 | " | " | |
| 7644 | " | " | 1160 |
| 7656 | " | " | |
| 7676 | " | " | |
| 7700 | 2420 | 062 | |
| 7702 | " | " | |
| 7714 | " | " | 0400 |
| 7716 | " | " | |
| 7722 | " | " | |
| 7726 | " | " | |
| 7730 | " | " | |
| 7744 | " | " | |
| 7746 | " | " | |
| 7748 | " | " | |
| 7760 | " | " | |
| 7766 | " | " | |
| 7768 | " | " | 1680 |
| 7772 | " | " | |
| 7776 | " | " | |
| 7782 | " | " | |
| 7786 | " | " | |
| 7800 | 2460 | 230 | |
| 7830 | " | " | 0800 |
| 7831 | " | " | |
| 7833 | " | " | |
| 7848 | " | " | |
| 7850 | " | " | |
| 7856 | " | " | |
| 7876 | " | " | 1880 |
| 7878 | " | " | 2120 |
| 7882 | 2460 | 230 | |
| 7884 | " | " | |
| 7886 | " | " | |
| 7890 | " | " | 2300 |
| 7896 | " | " | 2400 |
| 7898 | " | " | |

program determines the NEDS county number, AQCR number, and city number (if applicable).

- CONTROL DEVICE Conversion Table - Three two-digit numbers are stored in the Oregon system to indicate the type of primary, secondary, and tertiary pollution control equipment utilized by each source. The NEDS system only allows for the recording of a primary and secondary device. The primary and secondary numbers from the Oregon file are used as entering arguments for the CONTROL DEVICE Conversion Table (Table 2-4) to determine the correct NEDS control device number.

- BEC/SCC Conversion Table (Appendix A) - The State of Oregon has designed a coding scheme whereby each piece of pollution generating equipment is given a three-digit number indicating the type of equipment and its use. They call this number the Basic Equipment Code (BEC). With a few exceptions, these BEC numbers correspond quite well with the eight-digit Source Classification Code (SCC) used in the NEDS system. Other data elements required by NEDS which can be determined from the BEC number are the Standard Industrial Classification (SIC), the Process Code, and the Source Type. The BEC number defines a unique process weight unit (i.e. tons, thousands of gallons, etc) for each type of equipment, and these are the units in which annual process weight is reported. The NEDS system operates in exactly the same way. Each SCC number defines the process weight units for that source. In most cases the SCC number which corresponds to a given BEC number requires the same units as the BEC. However, occasionally a conversion is required. The applicable conversion factor is also contained in the BEC/SCC conversion table. Quite often the NEDS SCC number does not thoroughly define the source, and comments are required. These comments are a part of the BEC/SCC conversion table.

The remainder of this section is devoted to an explanation of the source of each data element required by NEDS. It lists item by item each NEDS data element, followed by its source from the Oregon system.

TABLE 2-4

Control Device Conversion Table

| Oregon | NEDS | Oregon | NEDS | Oregon | NEDS |
|---|---|---|---|---|---|
| 00 | 000 | 34 | 007 | 68 | 002 |
| 01 | 019 | 35 | 007 | 69 | 002 |
| 02 | 021 | 36 | 0 | 70 | 002 |
| 03 | 021 | 37 | 0 | 71 | 002 |
| 04 | 023 | 38 | 0 | 72 | 002 |
| 05 | 023 | 39 | 0 | 73 | 003 |
| 06 | 021 | 40 | 005 | 74 | 047 |
| 07 | 021 | 41 | 005 | 75 | 047 |
| 08 | 0 | 42 | 008 | 76 | 002 |
| 09 | 0 | 43 | 008 | 77 | 002 |
| 10 | 048 | 44 | 0 | 78 | 002 |
| 11 | 048 | 45 | 0 | 79 | 002 |
| 12 | 048 | 46 | 0 | 80 | 012 |
| 13 | 048 | 47 | 0 | 81 | 012 |
| 14 | 048 | 48 | 0 | 82 | 011 |
| 15 | 040 | 49 | 0 | 83 | 011 |
| 16 | 048 | 50 | 017 | 84 | 010 |
| 17 | 0 | 51 | 017 | 85 | 010 |
| 18 | 0 | 52 | 017 | 86 | 010 |
| 19 | 0 | 53 | 017 | 87 | 010 |
| 20 | 049 | 54 | 017 | 88 | 0 |
| 21 | 049 | 55 | 017 | 89 | 0 |
| 22 | 050 | 56 | 0 | 90 | 0 |
| 23 | 052 | 57 | 0 | 91 | 0 |
| 24 | 051 | 58 | 0 | 92 | 015 |
| 25 | 001 | 59 | 0 | 93 | 0 |
| 26 | 0 | 60 | 002 | 94 | 0 |
| 27 | 0 | 61 | 001 | 95 | 0 |
| 28 | 0 | 62 | 001 | 96 | 0 |
| 29 | 0 | 63 | 002 | 97 | 0 |
| 30 | 005 | 64 | 002 | 98 | 0 |
| 31 | 005 | 65 | 002 | 99 | 0 |
| 32 | 009 | 66 | 002 | | |
| 33 | 008 | 67 | 002 | | |

- State - The NEDS state code is found using the county code in the REG file.

  If county code = 1-36 state = 38 (Oregon)
  If county code = 40-78 state = 49 (Washington)

- County - The NEDS county code is found using the county and city codes from the REG file, and the CITY/COUNTY conversion table.

- AQCR - The AQCR number is also found in the CITY/COUNTY conversion table.

- Plant ID Number - The last four digits of the Oregon emission inventory number (EI Number) are used for the plant ID.

- City - The NEDS city code is found in the CITY/COUNTY conversion table.

- UTM Zone - The UTM zone is obtained by using the zone code in the REG file.

  If zone code = 0 UTM zone = 10
  If zone code = 1 UTM zone = 11

- Year of Record - The year of record is obtained by using the last two digits of the date of record from the REG file.

- Establishment Name and Address - Since the NEDS system allows only 40 spaces for this information and the REG file uses 44 (20 for the name, and 24 for the address), it was necessary to drop four spaces. The last four spaces of the firm name were selected for elimination since they are less important than the last four of the address. Therefore, the NEDS name and address field is constructed by using the first 16 spaces of the name field and all 24 spaces of the address field found in the REG file.

- Contact-Personal - The name of the person to contact about air pollution matters comes directly from the REG file.

- Ownership - This information is not available from the Oregon system and is left blank by the program.

- Point ID - The point ID number is generated by the program starting with one and numbering consecutively within a facility.

- SIC - The SIC number is obtained from the BEC/SCC conversion table.
- UTM Coordinates - UTM coordinates are found in the REG file. However, the units are different. NEDS requires kilometers to one decimal place but Oregon stores them in meters (horizontal) and tens of meters (vertical). Therefore the numbers found in the REG file must be divided by 100 (horizontal) and 10 (vertical). These numbers are then printed onto the output NEDS coding form and are correct since there is an assumed decimal point in each field.
- Stack Data - No stack data are available from the Oregon file and these fields are left blank by the program.
- Boiler Design Capacity - Boiler capacity information is not available from the Oregon file. It is left blank for boiler sources, and a zero is entered for others.
- Control Equipment - Primary and secondary particulate control device codes are found in the control device conversion table. Information on devices for the other pollutants is not available in the Oregon system.
- Control Efficiencies - Control efficiencies are not stored in the Oregon system, and the program leaves these fields blank.
- Percent Annual Throughput - Percentage throughput data are not available from the Oregon system.
- Normal Operating - Operating schedules are not contained in the Oregon files.
- Emission Estimates - Annual emission estimates are taken directly from the BEC file. Particulate emissions are those given as total particulate in the BEC file, and hydrocarbons are those listed as total organic. If a BEC record indicates that it represents more than one identical unit, the emissions are divided by the number of units, and printed on the appropriate number of output forms.

- Estimation Methods - Estimation methods are printed only for pollutants which have a value greater than zero. The number used is based on the type factor in the BEC file.

  | | |
  |---|---|
  | If type factor = 1-4 | print 5 (estimate based on a non-EPA factor) |
  | If type factor = 5 | print 1 (estimate based on a stack test) |

- Percent Space Heat - Space heat data are not included in the Oregon files.
- Compliance Data - The compliance data which should be entered on card five is not available, and the entire line is left blank by the program.
- SCC - The SCC number is obtained from the BEC/SCC conversion table.
- Fuel, Process, Solid Waste Operating Rate - The annual process weight rate is taken from the BEC file and multiplied by the unit conversion factor in the BEC/SCC table to correct for any differences in units used. The resulting value is then divided by the number of identical sources which the BEC record represents, and then printed on an appropriate number of forms.
- Maximum Design Rate - Maximum design process rate is not available in the Oregon System.
- Fuel Parameters - Sulfur content, ash content, and heat content are not stored in the Oregon files. These fields are left blank for combustion sources and a zero is entered for all others.
- Comments - Any comments which are needed are taken from the BEC/SCC conversion table.
- Source Type - Source type is obtained from the BEC/SCC conversion table.
- Confidentiality - A two is entered in this field by the computer indicating that the source data is not confidential.

# 3.0 PROGRAM DESCRIPTION

## 3.1 PROGRAM ELEMENTS

Due primarily to the size of the BEC/SCC conversion table, the program requires a large amount of core space to run. To reduce this requirement, the program was divided into three subprograms; a file conversion program, a matching program, and a print program. The purpose of each program is described below, and a system flow chart is shown in Figure 3-1.

- File Conversion Program - The State of Oregon required that the program be written in COBOL. However, the emissions data and the annual process rates are stored in the BEC file in a format which cannot be read by a COBOL program. Therefore, before the COBOL portion of the program can operate, these values must be changed to a COBOL readable format. That is the purpose of this subprogram. The file conversion program reads the original BEC file and prints a converted BEC file on tape to be used with the original REG file by the next subprogram.
- BEC-REG Matching Program - This subprogram is the portion of the system which matches a BEC record with the corresponding REG records, extracts the required data from the two records, and creates the output NEDS form. All the output forms for the entire file are created and stored on tape for use by the following system. A detailed flow chart is presented in Figure 3-2.
- Print Program - This subprogram reads the file created by the matching program and prints the output NEDS form.

Even after dividing the system into three smaller subprograms, the matching program still requires 118 K of core space to run. Again, this is due primarily to the great size of the BEC/SCC conversion table. A possible method of reducing the core requirement would be to eliminate that portion of the CITY/COUNTY conversion table which deals with parts of Washington for which there are no sources in the Oregon file.

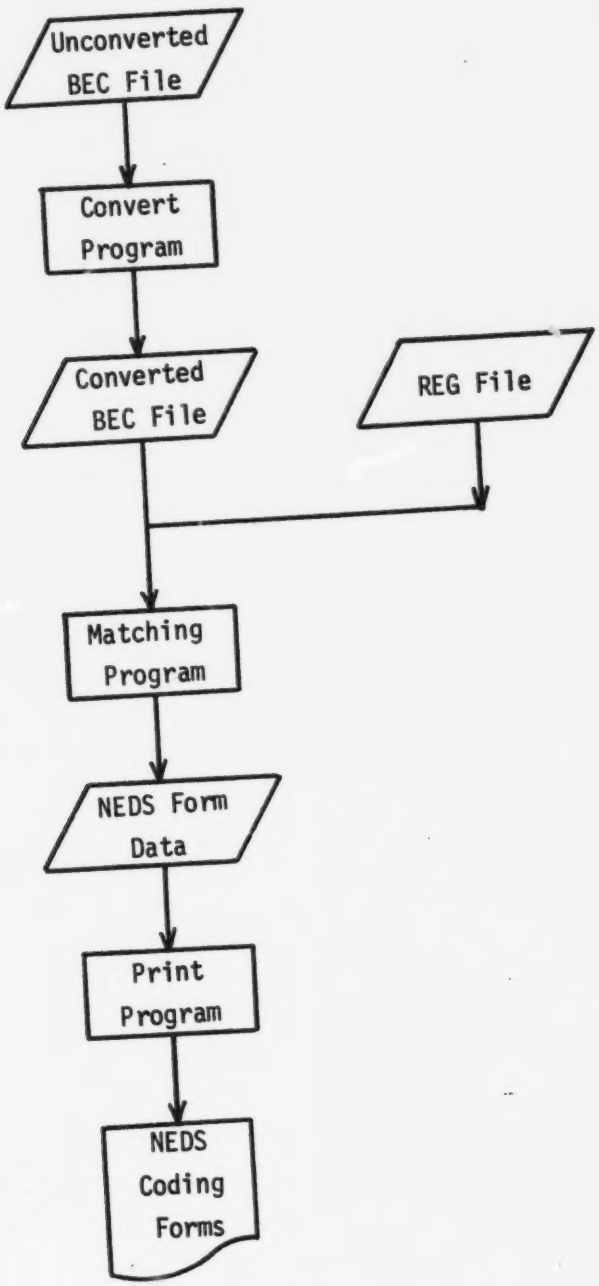
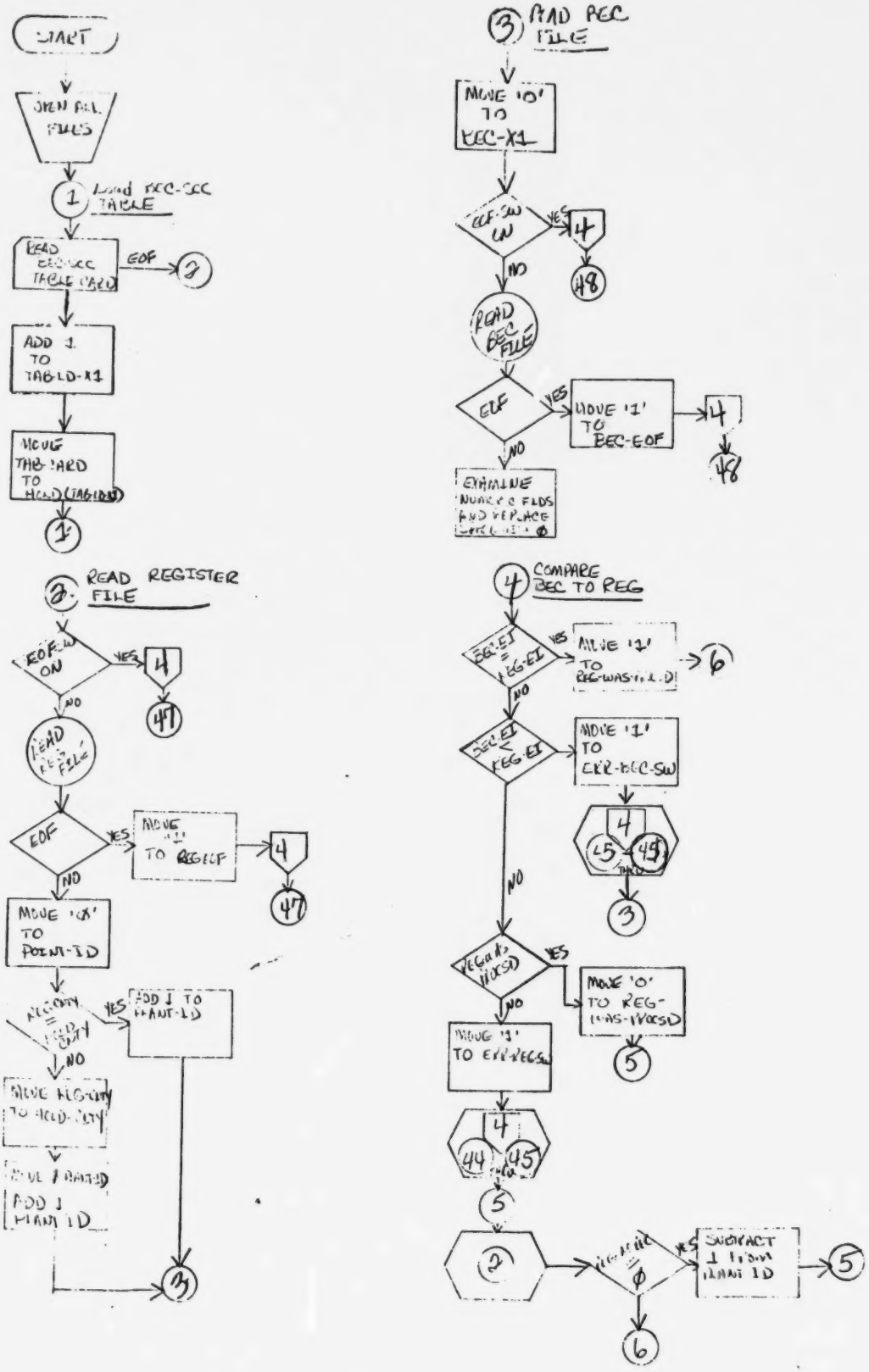



FIGURE 3-1
System Flowchart


START
OPEN ALL FILES
1 Load REC-SCC TABLE
READ REC-SCC TABLE CARD
EOF
2
ADD 1 TO TAB-LD-X1
MOVE TAB-CARD TO HOLD (TAB-IND)
1
2. READ REGISTER FILE
EOF-SW ON
YES
4
41
NO
READ REG FILE
EOF
YES
MOVE '1' TO REG-EOF
4
47
NO
MOVE '0' TO POINT-ID
REG-CITY = HOLD-CITY
YES
ADD 1 TO MAINT-LD
NO
MOVE REG-CITY TO HOLD-CITY
MOVE 1 TO MAINT-ID
ADD 1 MAINT-ID
3
3 READ REC FILE
MOVE '0' TO REC-X1
REC-SW ON
YES
4
48
NO
READ REC FILE
EOF
YES
MOVE '1' TO REC-EOF
4
48
NO
EXAMINE NUMERIC FLDS AND REPLACE
4 COMPARE REC TO REG
REC-EI = REG-EI
YES
MOVE '1' TO REG-WAS-INVALID
6
NO
REC-EI < REG-EI
MOVE '1' TO ERR-REC-SW
4
45
45
3
NO
REG-WAS-INVALID
YES
MOVE '0' TO REG-WAS-INVALID
5
NO
MOVE '1' TO ERR-REC-SW
4
44
45
5
2
REG-CITY = ∅
YES
SUBTRACT 1 FROM MAINT-ID
5
6
6
REC-X2 = ZERO
ADD 1 TO REC-X2
EXAMINE REC-NO AND REPLACE WITH ∅
REC-NO = TAB-REC
6
VALIDATE SCC-NO
7
EXAMINE TAB-SCC (REC-X2) ALL '4'
TAB-SCC (REC-X2) = ∅
TAB-SCC (REC-X2) = 1
MOVE TAB-SCC (REC-X2) TO HOLD
8
REC-2 POS 3 = SCC
2
10
9
REG-NO = 01
EXIT

A

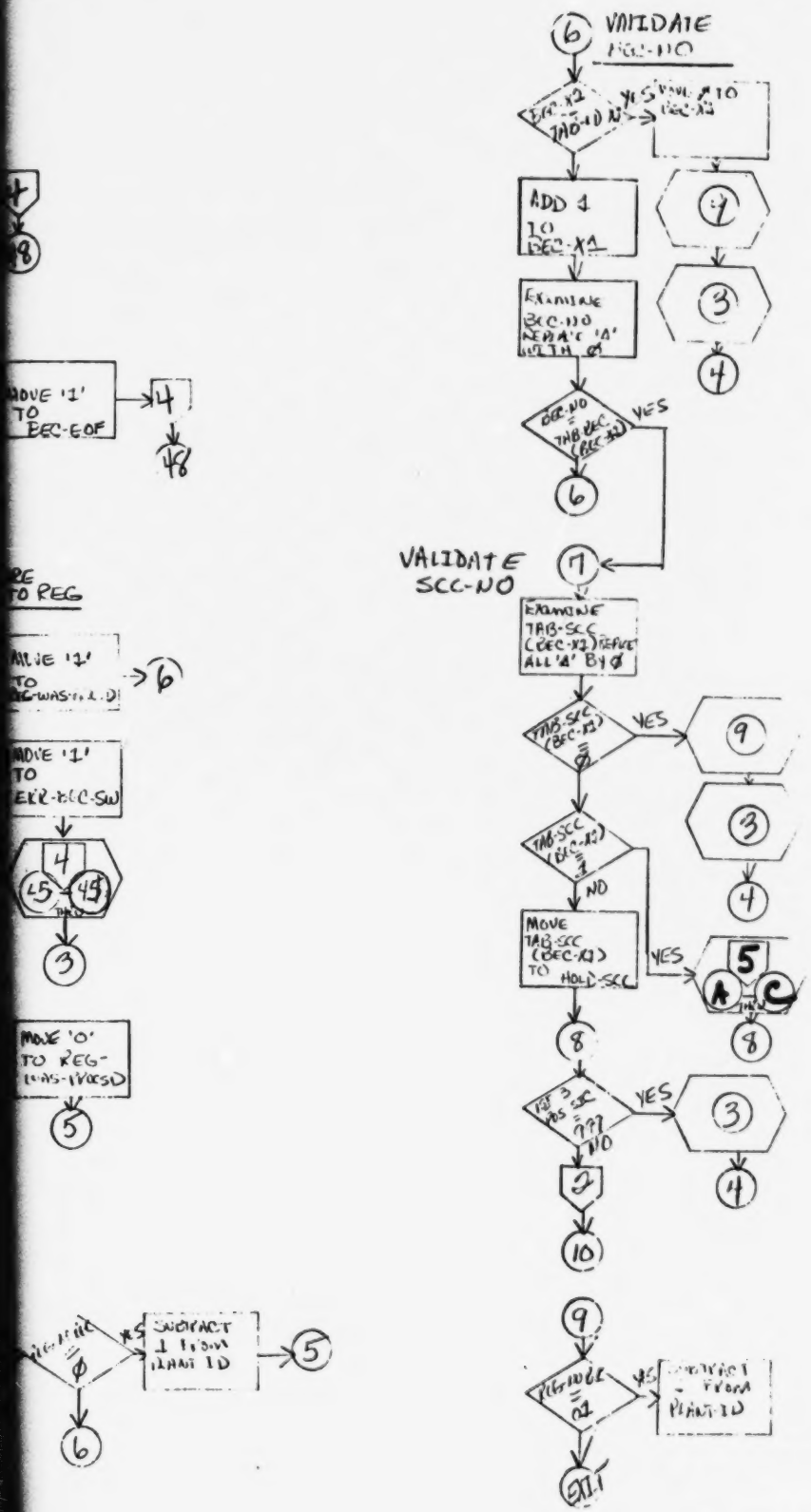



FIGURE 3-2. Detailed Flow Chart

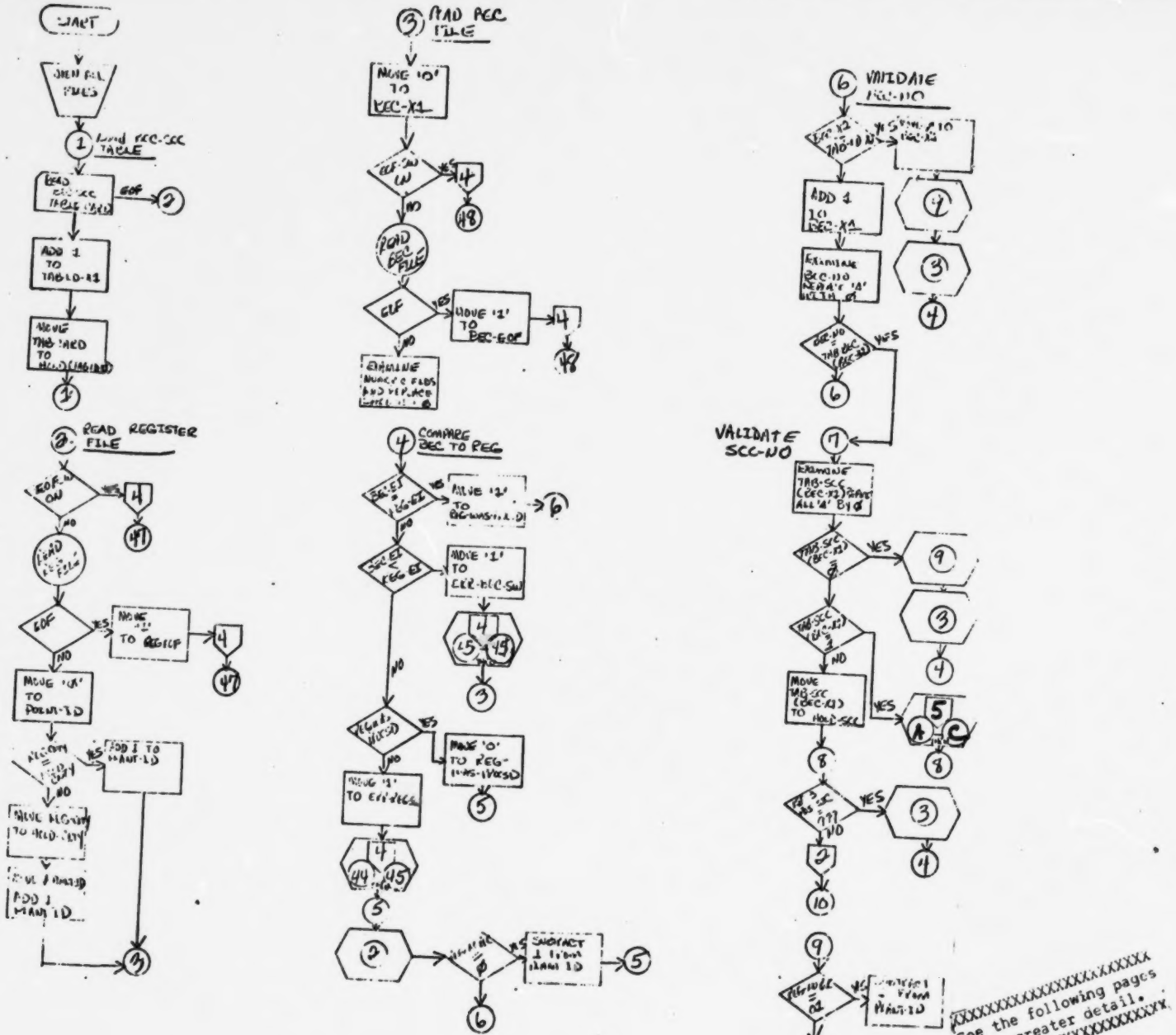
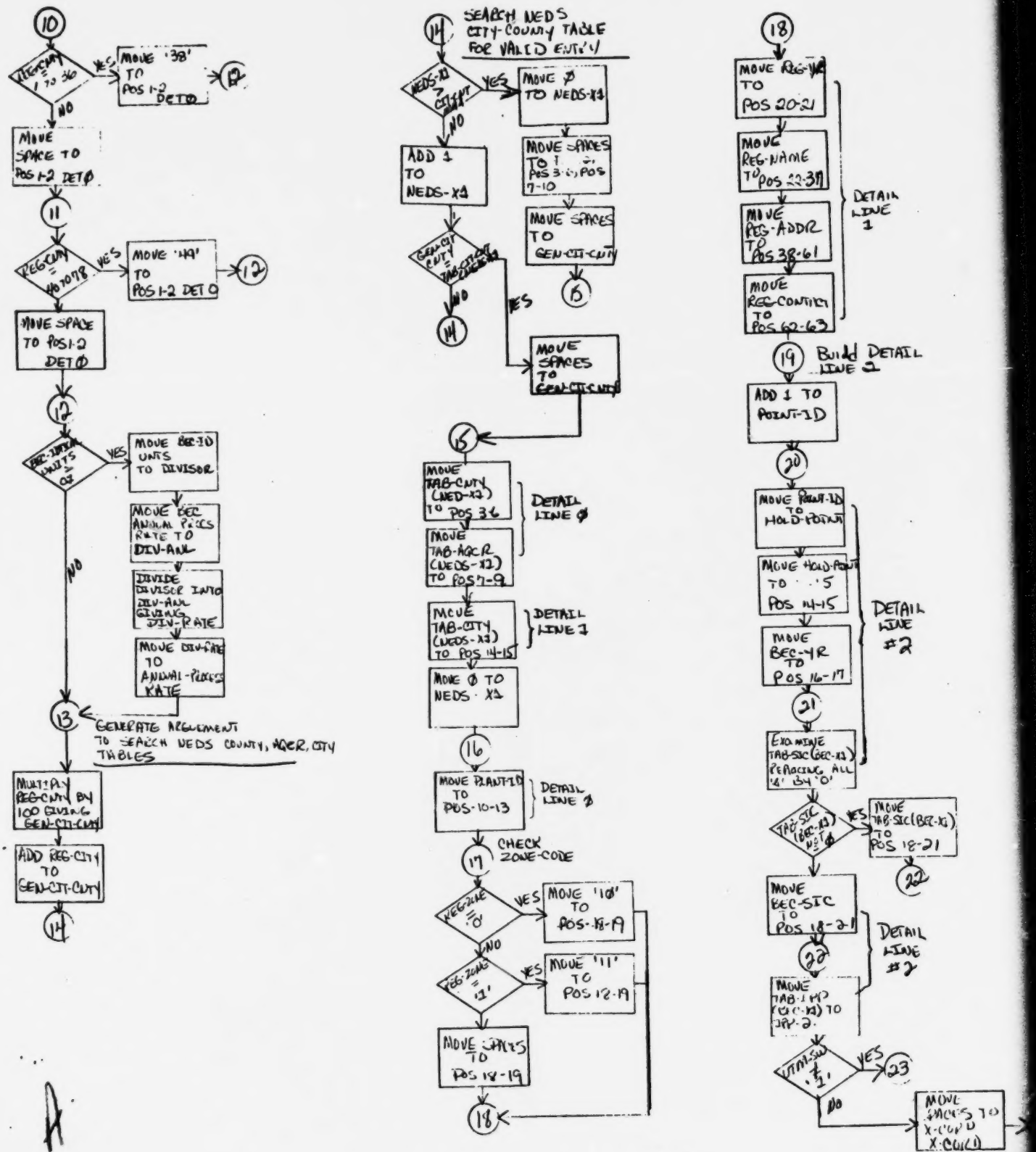



FIGURE 3-2. Detailed Flow Chart


10
REG-CNTY = 1 TO 36
YES
MOVE '38' TO POS 1-2 DET Ø
12
NO
MOVE SPACE TO POS 1-2 DET Ø
11
REG-CNTY = 40 TO 78
YES
MOVE '49' TO POS 1-2 DET Ø
12
MOVE SPACE TO POS 1-2 DET Ø
12
BEC-ID UNITS = 02
YES
MOVE BEC-ID UNITS TO DIVISOR
MOVE BEC ANNUAL PAYS RATE TO DIV-ANN
DIVIDE DIVISOR INTO DIV-ANN GIVING DIV-RATE
MOVE DIV-RATE TO ANNUAL-PAYS RATE
NO
13
GENERATE AGGLEMENT TO SEARCH NEDS COUNTY, AGER, CITY TABLES
MULTIPLY REG-CNTY BY 100 GIVING GEN-CIT-CNTY
ADD REG-CITY TO GEN-CIT-CNTY
14
14
SEARCH NEDS CITY-COUNTY TABLE FOR VALID ENTRY
NEDS-X1 > CITY ENT
YES
MOVE Ø TO NEDS-X1
MOVE SPACES TO POS 3-6, POS 7-10
MOVE SPACES TO GEN-CIT-CNTY
15
NO
ADD 1 TO NEDS-X1
GEN-CIT CNTY = TAB-CITY-CNTY
NO
14
YES
MOVE SPACES TO GEN-CIT-CNTY
15
MOVE TAB-CNTY (NED-X1) TO POS 3-6
MOVE TAB-AGCR (NEDS-X1) TO POS 7-9
DETAIL LINE Ø
MOVE TAB-CITY (NEDS-X1) TO POS 14-15
DETAIL LINE 1
MOVE Ø TO NEDS-X1
16
MOVE PLANT-ID TO POS 10-13
DETAIL LINE 1
17
CHECK ZONE-CODE
REG-ZONE = Ø
YES
MOVE '10' TO POS 18-19
NO
REG-ZONE = '1'
YES
MOVE '11' TO POS 18-19
MOVE SPACES TO POS 18-19
18
18
MOVE REG-NO TO POS 20-21
MOVE REG-NAME TO POS 22-37
MOVE REG-ADDR TO POS 38-61
MOVE REG-CONTACT TO POS 62-63
DETAIL LINE 1
19
Build DETAIL LINE 2
ADD 1 TO POINT-ID
20
MOVE POINT-ID TO HOLD-POINT
MOVE HOLD-POINT TO POS 14-15
MOVE BEC-YR TO POS 16-17
DETAIL LINE #2
21
EXAMINE TAB-SIC (BEC-X1) REPLACING ALL 'A' BY 'Ø'
TAB-SIC (BEC-X1) NOT = Ø
YES
MOVE TAB-SIC (BEC-X1) TO POS 18-21
22
NO
MOVE BEC-SIC TO POS 18-21
DETAIL LINE #2
23
MOVE TAB-TYP (BEC-X1) TO TYP-2
TYP-2 = '1'
YES
23
NO
MOVE SPACES TO X-COORD X-COORD1

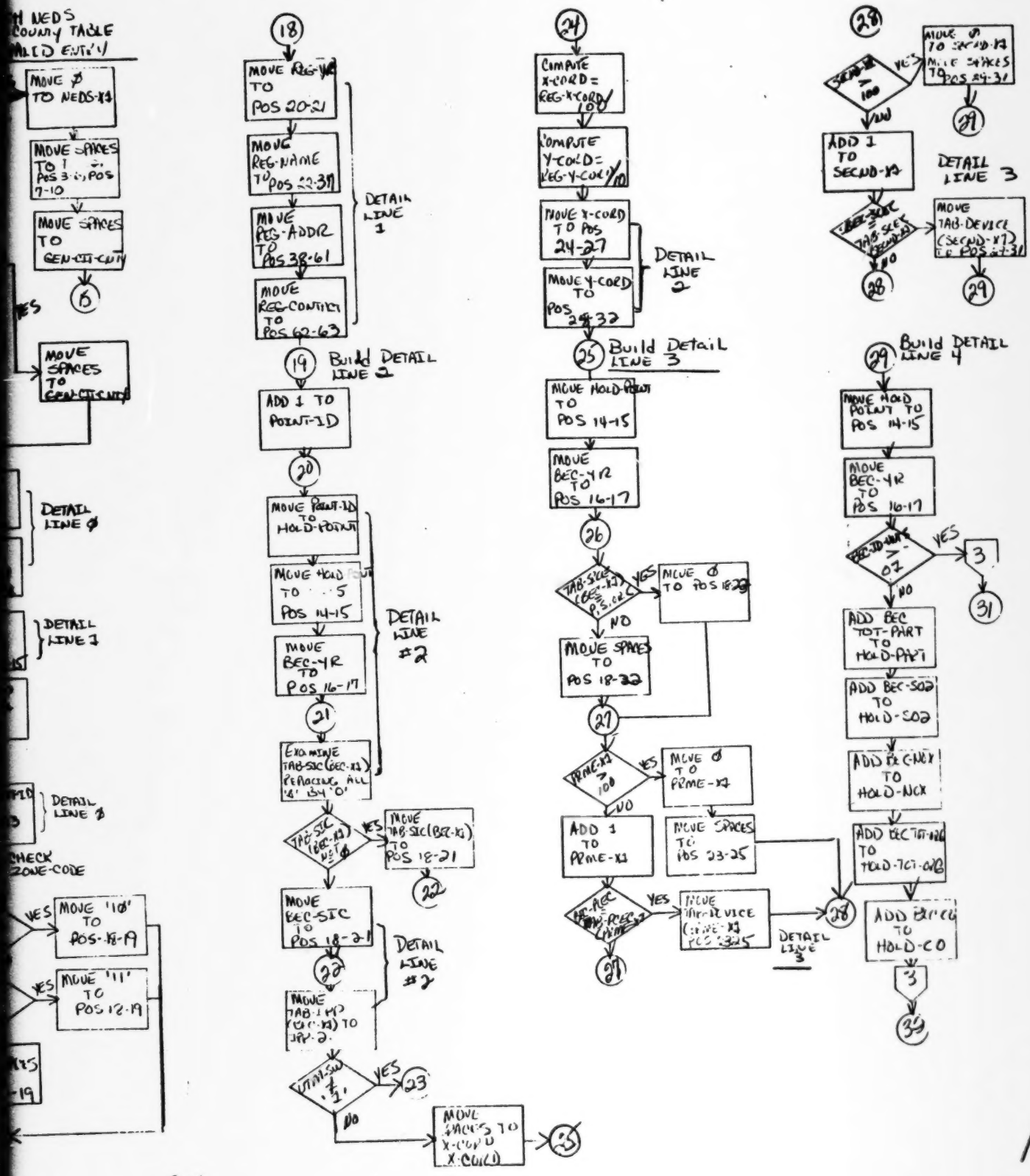
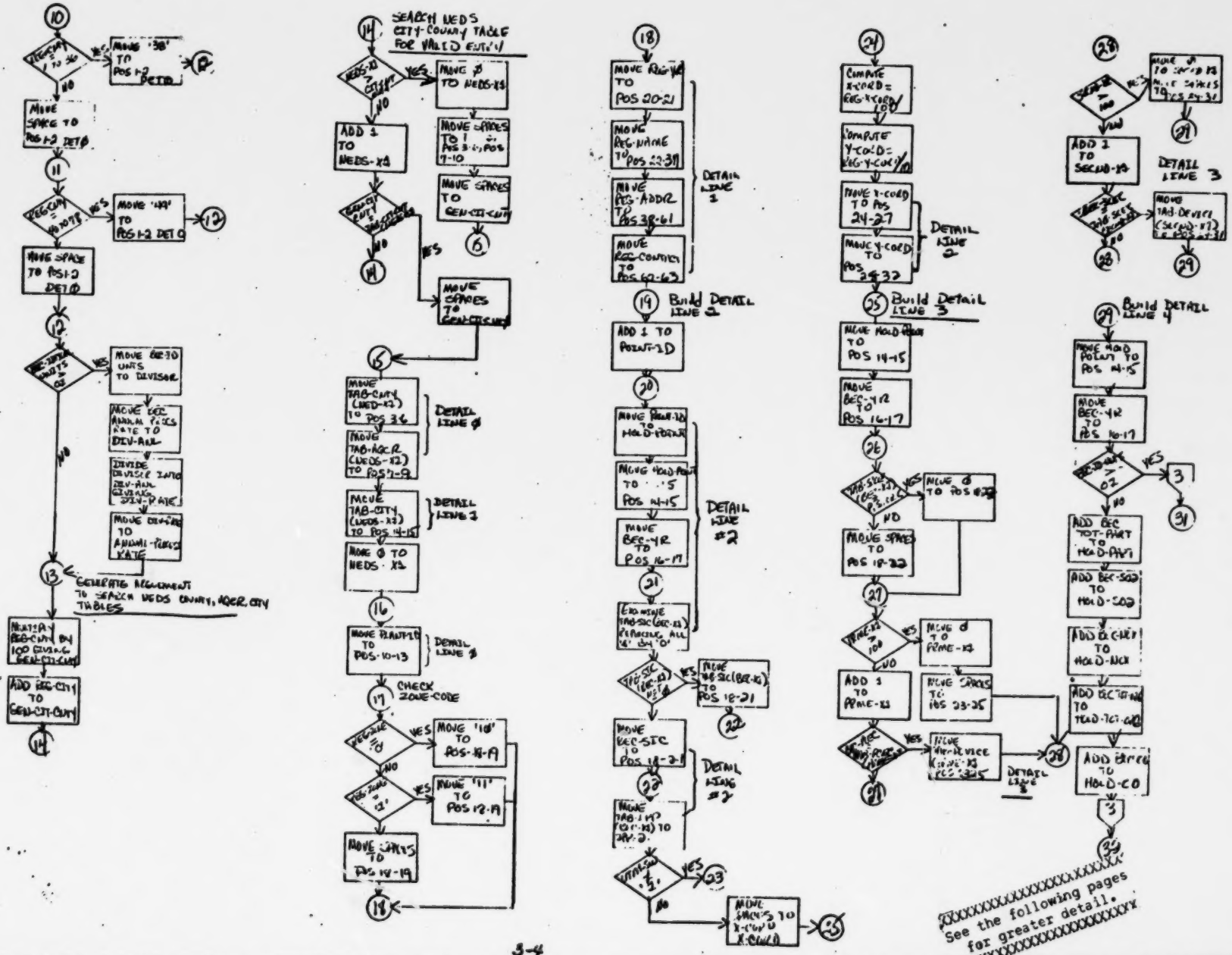
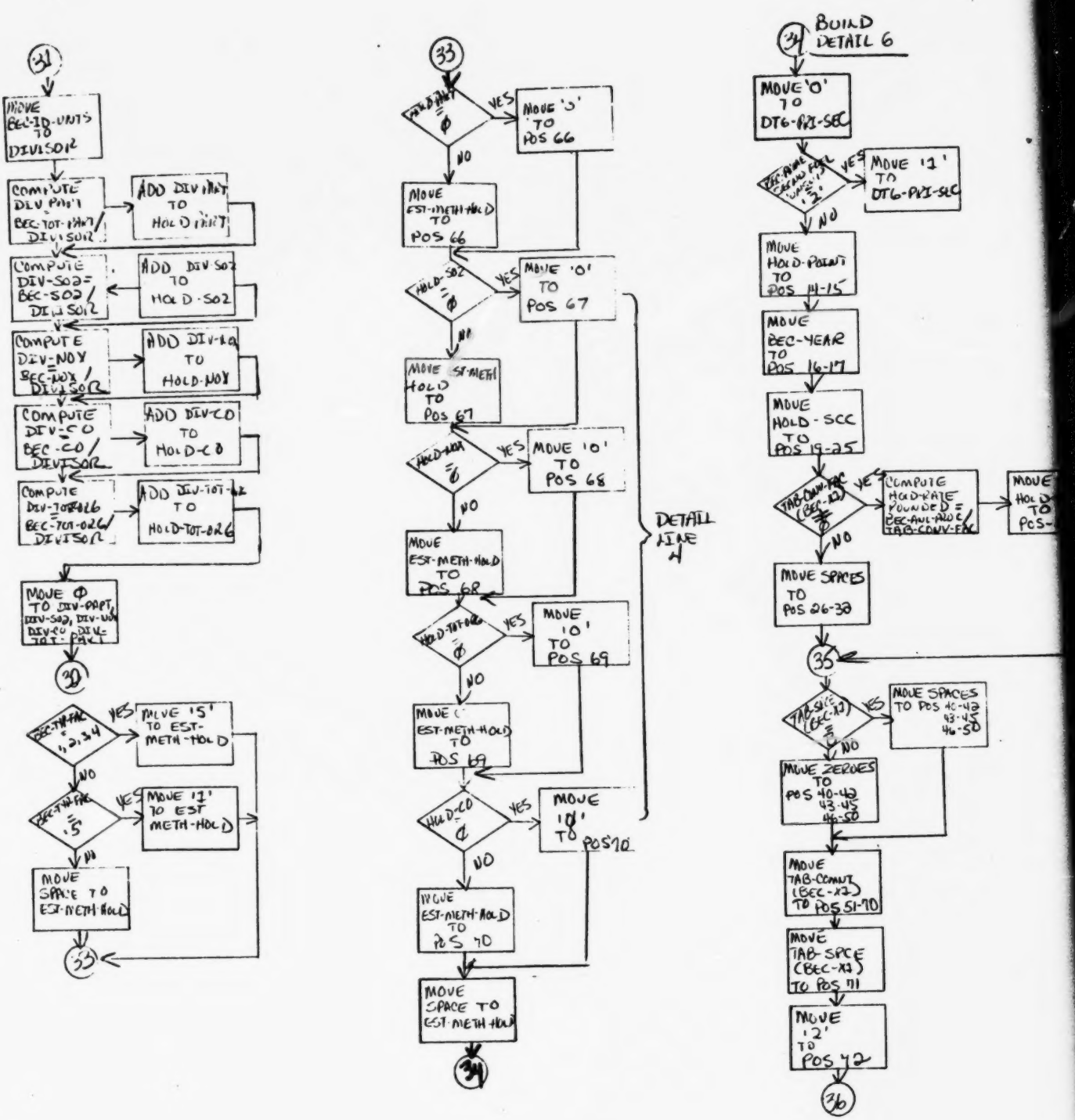

MOVE ∅ TO NEDS-X1
MOVE SPACES TO POS 3-6, POS 7-10
MOVE SPACES TO GEN-CTL-CNTY
DETAIL LINE ∅
DETAIL LINE 1
DETAIL LINE 2
CHECK ZONE-CODE
MOVE '10' TO POS-18-19
MOVE '11' TO POS 18-19
MOVE REG-YR TO POS 20-21
MOVE REG-NAME TO POS 22-37
MOVE REG-ADDR TO POS 38-61
MOVE REG-CONTRY TO POS 62-63
DETAIL LINE 1
Build DETAIL LINE 2
ADD 1 TO POINT-ID
MOVE POINT-ID TO HOLD-POINT
MOVE HOLD-POINT TO POS 14-15
MOVE BEC-YR TO POS 16-17
DETAIL LINE #2
EXAMINE TAB-SIC (BEC-X1) REPLACING ALL '4' BY '0'
MOVE TAB-SIC (BEC-X1) TO POS 18-21
MOVE BEC-SIC TO POS 18-21
DETAIL LINE #2
MOVE TAB-IMP (BEC-X1) TO IMP-2
MOVE SPACES TO X-COORD X-COORD
COMPUTE X-COORD = REG-X-COORD / 100
COMPUTE Y-COORD = REG-Y-COORD / 100
MOVE X-COORD TO POS 24-27
MOVE Y-COORD TO POS 28-32
DETAIL LINE 2
Build Detail LINE 3
MOVE HOLD-POINT TO POS 14-15
MOVE BEC-YR TO POS 16-17
MOVE ∅ TO POS 18-23
MOVE SPACES TO POS 18-32
MOVE ∅ TO PRME-X1
ADD 1 TO PRME-X1
MOVE SPACES TO POS 23-25
MOVE TAB-DEVICE (SECND-X1) TO POS 23-25
DETAIL LINE 3
MOVE ∅ TO SECND-X1
MOVE SPACES TO POS 24-31
ADD 1 TO SECND-X1
MOVE TAB-DEVICE (SECND-X1) TO POS 24-31
DETAIL LINE 3
Build DETAIL LINE 4
MOVE HOLD POINT TO POS 14-15
MOVE BEC-YR TO POS 16-17
ADD BEC TOT-PART TO HOLD-PART
ADD BEC-SOZ TO HOLD-SOZ
ADD BEC-NCX TO HOLD-NCX
ADD BEC TOT-CB TO HOLD-TOT-CB
ADD BEC-CO TO HOLD-CO

FIGURE 3-2 (Cont.)


SEARCH WEDS CITY-COUNTY TABLE FOR VALID ENTRY
Build DETAIL LINE 2
Build DETAIL LINE 3
Build DETAIL LINE 4
DETAIL LINE 1
DETAIL LINE 2
DETAIL LINE 3
DETAIL LINE #2
DETAIL LINE #3
DETAIL LINE 4
DETAIL LINE 0
DETAIL LINE 1
GENERATE ARGUMENT TO SEARCH WEDS COUNTY, MOER CITY TABLES
CHECK ZONE-CODE
See the following pages for greater detail.


31
MOVE BEC-ID-UNITS TO DIVISOR
COMPUTE DIV-PART = BEC-TOT-PART / DIVISOR
ADD DIV-PART TO HOLD-PART
COMPUTE DIV-SO2 = BEC-SO2 / DIVISOR
ADD DIV-SO2 TO HOLD-SO2
COMPUTE DIV-NOX = BEC-NOX / DIVISOR
ADD DIV-NOX TO HOLD-NOX
COMPUTE DIV-CO = BEC-CO / DIVISOR
ADD DIV-CO TO HOLD-CO
COMPUTE DIV-TOT-026 = BEC-TOT-026 / DIVISOR
ADD DIV-TOT-026 TO HOLD-TOT-026
MOVE 0 TO DIV-PART, DIV-SO2, DIV-NOX, DIV-CO, DIV-TOT-PART
30
BEC-TM-FAC = 1,2,3,4
YES
MOVE '5' TO EST-METH-HOLD
NO
BEC-TM-FAC = 5
YES
MOVE '1' TO EST METH-HOLD
NO
MOVE SPACE TO EST-METH-HOLD
33
33
HOLD-PART = 0
YES
MOVE '5' TO POS 66
NO
MOVE EST-METH-HOLD TO POS 66
HOLD-SO2 = 0
YES
MOVE '0' TO POS 67
NO
MOVE EST-METH-HOLD TO POS 67
HOLD-NOX = 0
YES
MOVE '0' TO POS 68
NO
MOVE EST-METH-HOLD TO POS 68
HOLD-TOT-026 = 0
YES
MOVE '0' TO POS 69
NO
MOVE EST-METH-HOLD TO POS 69
HOLD-CO = 0
YES
MOVE '0' TO POS 70
NO
MOVE EST-METH-HOLD TO POS 70
MOVE SPACE TO EST-METH-HOLD
34
34
BUILD DETAIL 6
MOVE '0' TO DT6-PRI-SEC
BEC-RANK-BAND-FACT = '1' OR '2'
YES
MOVE '1' TO DT6-PRI-SEC
NO
MOVE HOLD-POINT TO POS 14-15
MOVE BEC-YEAR TO POS 16-17
MOVE HOLD-SCC TO POS 19-25
TAB-CONV-FAC (BEC-X2) = 0
YES
COMPUTE HOLD-RATE ROUNDED = BEC-ANN-PROD / TAB-CONV-FAC
NO
MOVE SPACES TO POS 26-30
35
TAB-SPCE (BEC-X2) = 0
YES
MOVE SPACES TO POS 40-42, 43-45, 46-50
NO
MOVE ZEROES TO POS 40-42, 43-45, 46-50
MOVE TAB-COMNT (BEC-X2) TO POS 51-70
MOVE TAB-SPCE (BEC-X2) TO POS 71
MOVE '2' TO POS 72
36
DETAIL LINE 4

A

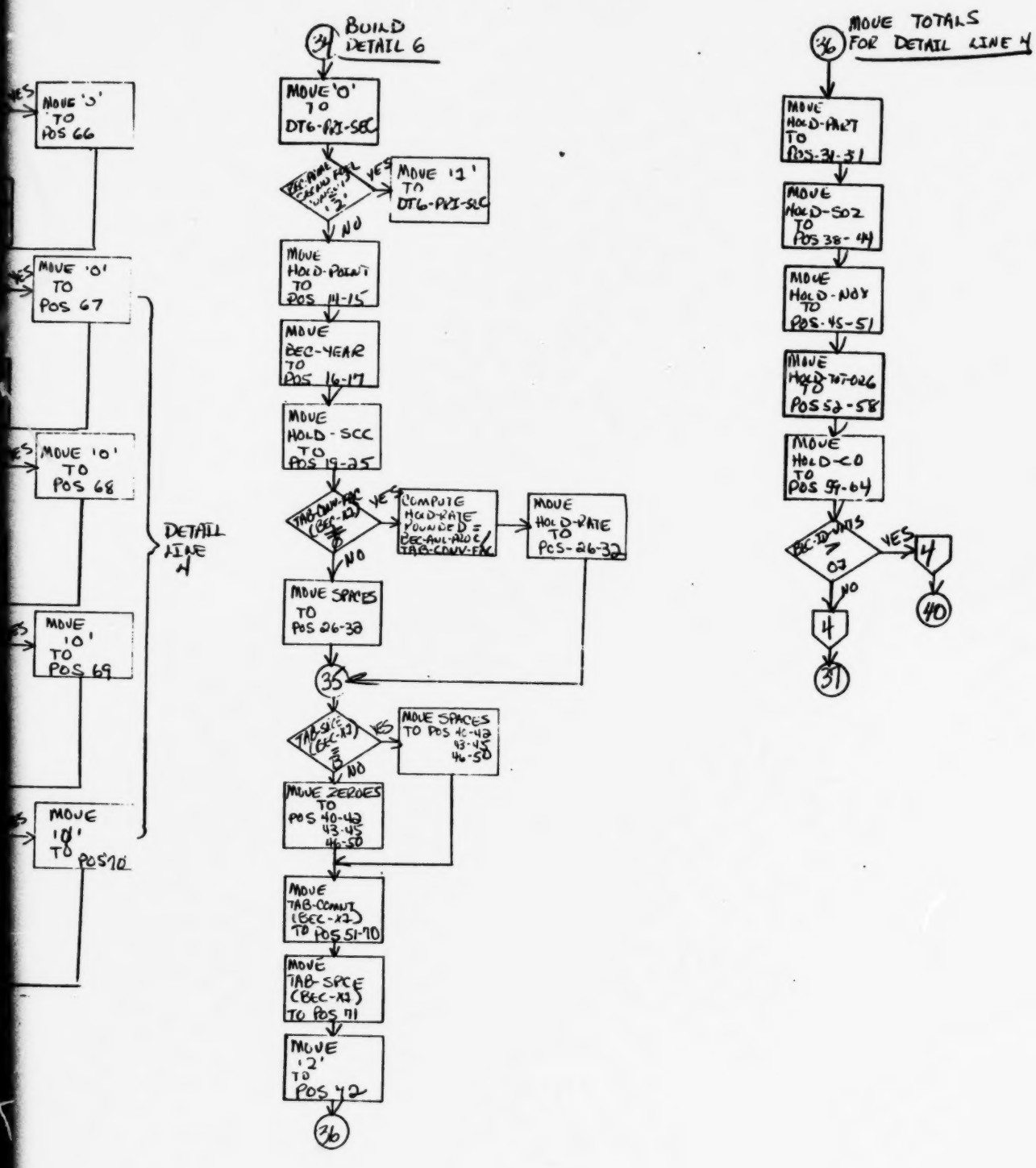



FIGURE 3-2 (Cont.)

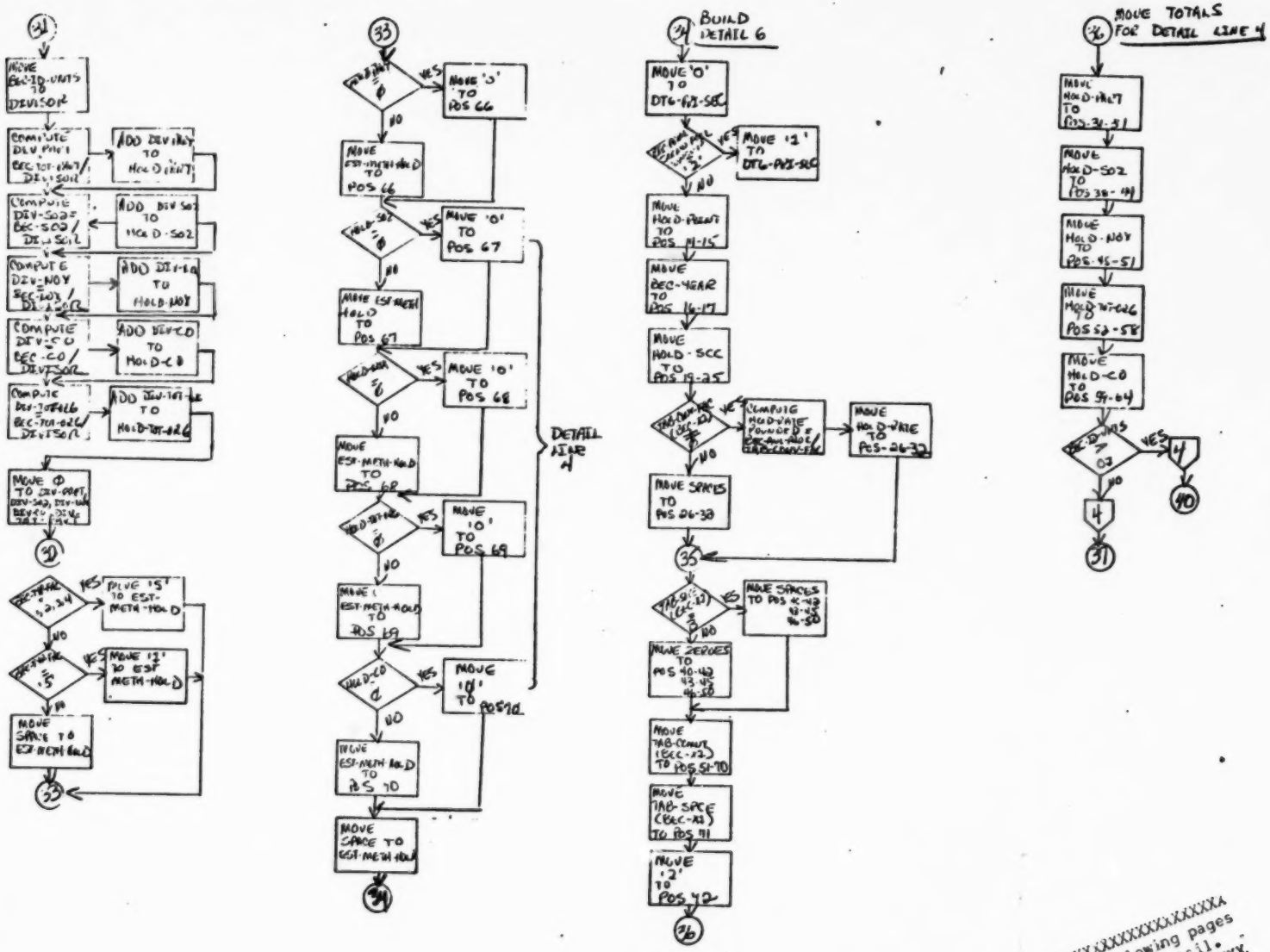
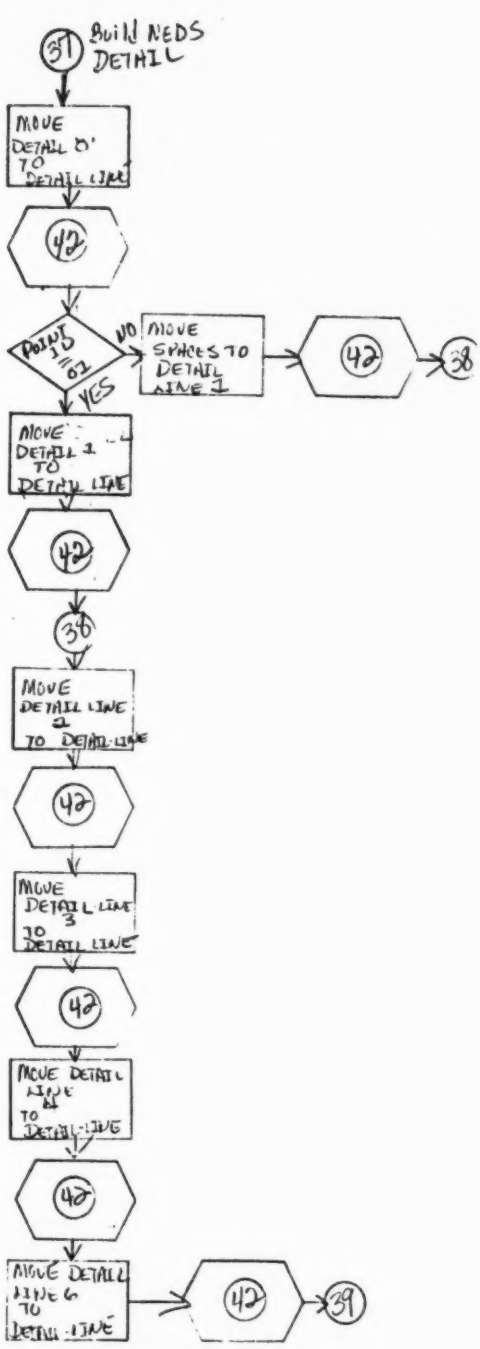
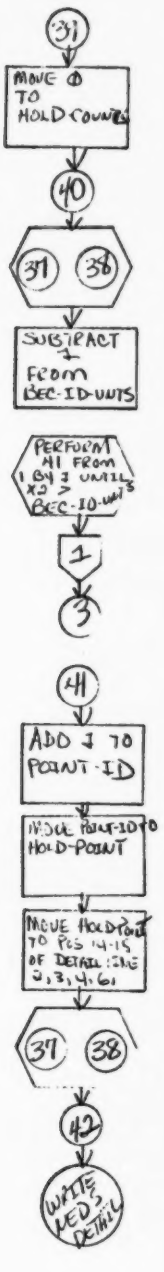
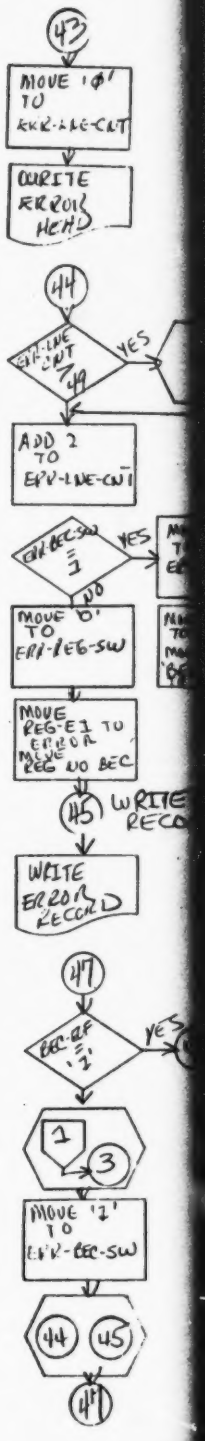



FIGURE 3-2 (Cont.)


37
BUILD NEDS DETAIL
MOVE DETAIL 0' TO DETAIL LINE
42
POINT ID = 01
NO
MOVE SPACES TO DETAIL LINE 1
42
38
YES
MOVE DETAIL 1 TO DETAIL LINE
42
38
MOVE DETAIL LINE 2 TO DETAIL LINE
42
MOVE DETAIL LINE 3 TO DETAIL LINE
42
MOVE DETAIL LINE 4 TO DETAIL LINE
42
MOVE DETAIL LINE 6 TO DETAIL LINE
42
39


37
MOVE 0 TO HOLD COUNTER
40
37
38
SUBTRACT 1 FROM REC-ID-UNITS
PERFORM A1 FROM 1 BY 1 UNTIL X2 > REC-ID-UNITS
1
3
41
ADD 1 TO POINT-ID
MOVE POINT-ID TO HOLD-POINT
MOVE HOLD-POINT TO POS 14-15 OF DETAIL LINE 2,3,4,6
37
38
42
WRITE NEDS DETAIL


42
MOVE '0' TO ERR-REC-CNT
WRITE ERROR HEAD
44
ERR-LINE-CNT > 49
YES
ADD 2 TO ERR-LINE-CNT
ERR-REC-SW = 1
YES
NO
MOVE 0' TO ERR-REG-SW
MOVE REG-E1 TO ERROR
MOVE REG NO REC
45
WRITE RECO
WRITE ERROR RECORD
47
REC-CF = '2'
YES
1
3
MOVE '2' TO ERR-REC-SW
44
45
41

A

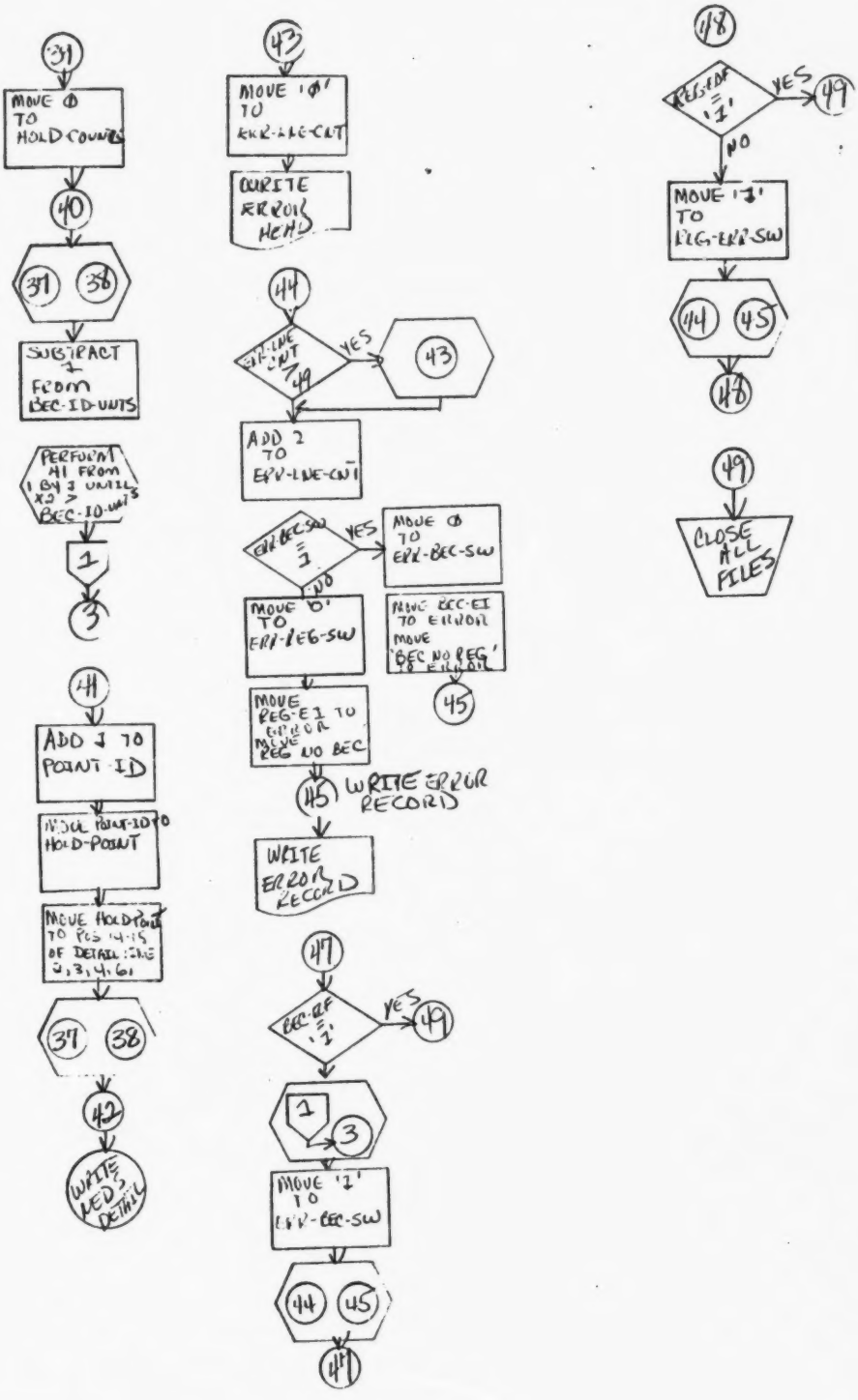
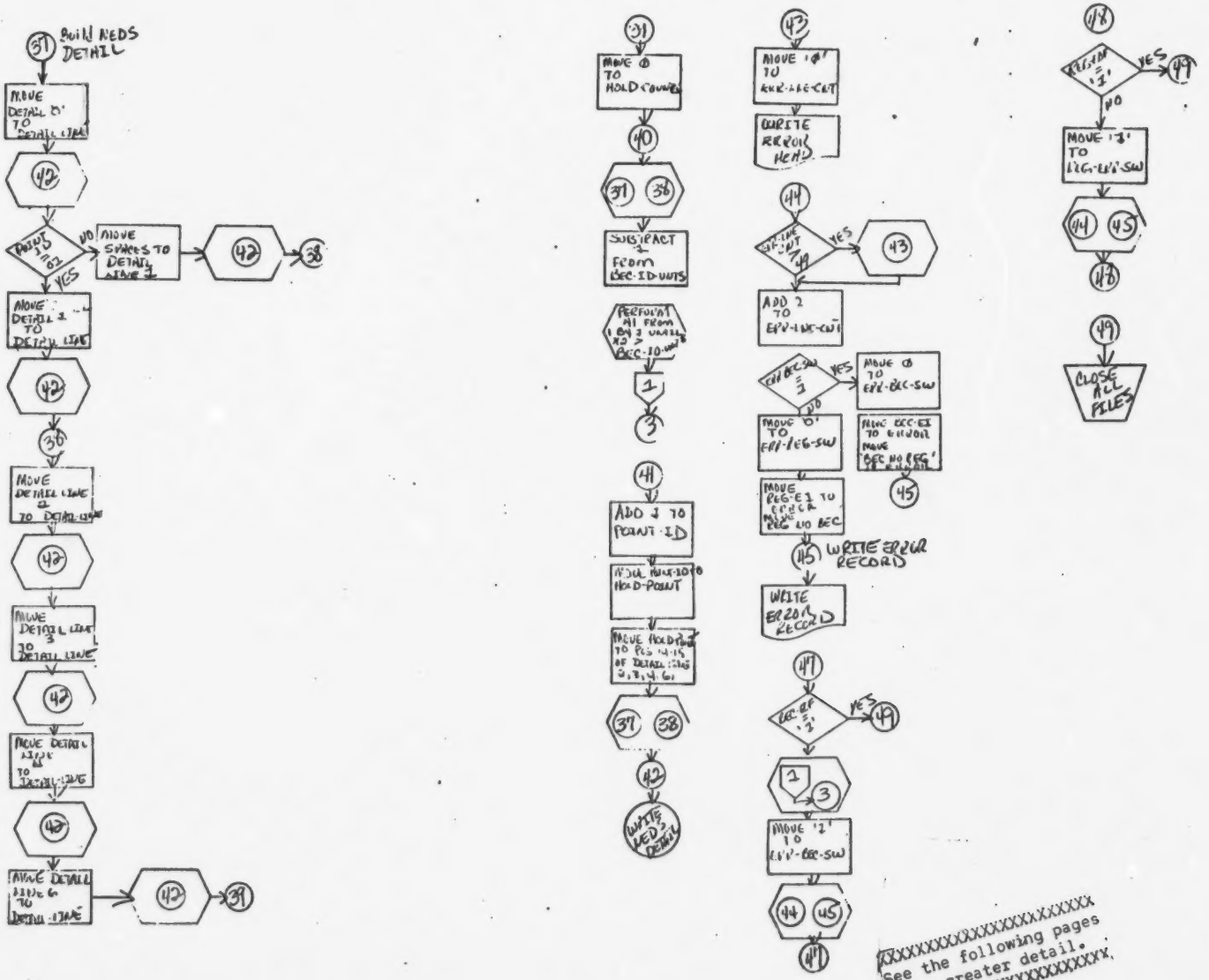



FIGURE 3-2 (Cont.)

B

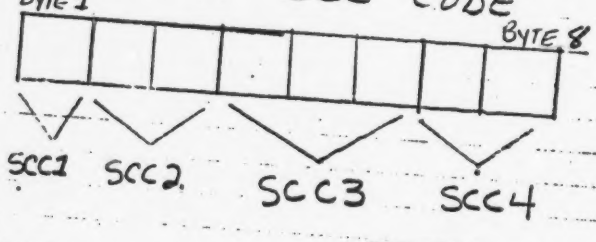

MAIN NEDS DETAIL
MOVE DETAIL 0 TO DETAIL LINE
POINT-ID = 62
NO
YES
MOVE SPACES TO DETAIL LINE 2
MOVE DETAIL 1 TO DETAIL LINE
MOVE DETAIL LINE 2 TO DETAIL LINE
MOVE DETAIL LINE 3 TO DETAIL LINE
MOVE DETAIL LINE 4 TO DETAIL LINE
MOVE DETAIL LINE 5 TO DETAIL LINE
MOVE DETAIL LINE 6 TO DETAIL LINE
MOVE 0 TO HOLD COUNTER
SUBTRACT 2 FROM REC-ID-UNITS
PERFORM A1 FROM 1 BY 1 UNTIL NO > REC-ID-UNITS
ADD 1 TO POINT-ID
MOVE HOLD-POINT TO PEG NO IN OF DETAIL LINES 0, 1, 2, 3, 4, 5, 6
WRITE NEDS DETAIL
MOVE '0' TO ERR-REC-SW
WRITE ERROR HEAD
LINE-CNT > 49
YES
ADD 2 TO ERR-LINE-CNT
ERR-REC-SW = 1
MOVE '0' TO ERR-REC-SW
MOVE REC-ID TO HOLD-POINT
MOVE PEG-ID TO ERR-PEG-NO
MOVE REC NO REC
WRITE ERROR RECORD
WRITE ERROR RECORD
REC-ID = 2
MOVE '2' TO ERR-REC-SW
REC-ID = 1
MOVE '1' TO ERR-REC-SW
MOVE '1' TO REC-ID-SW
CLOSE ALL FILES

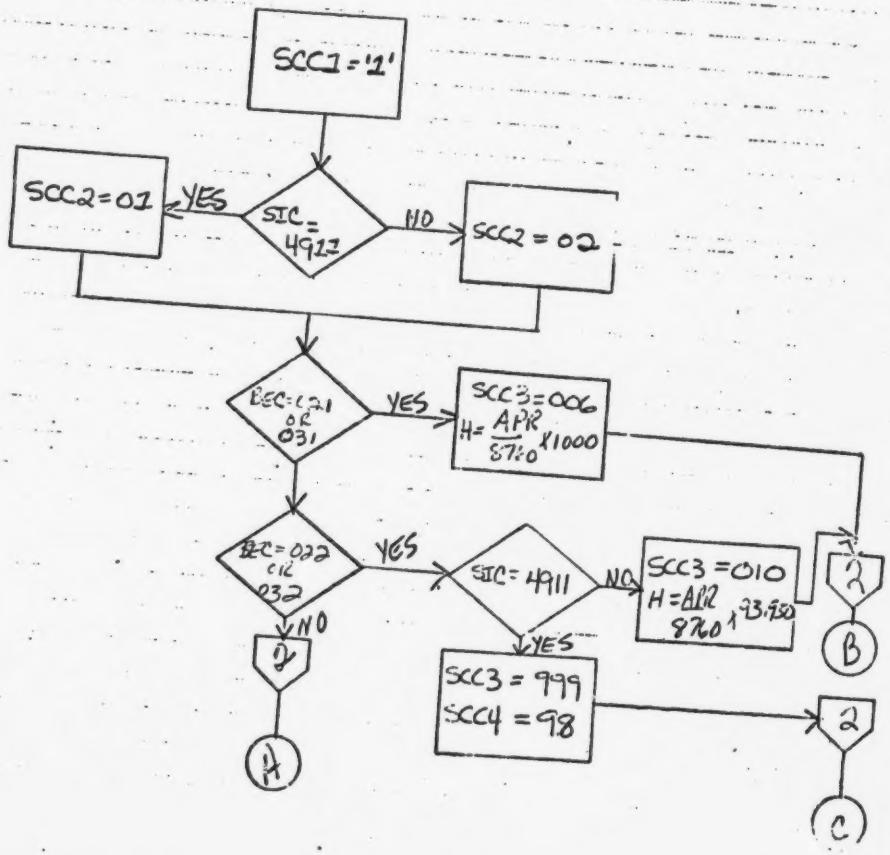
XXXXXXXXXXXXXXXXXXXXX
See the following pages
for greater detail.
XXXXXXXXXXXXXXXXXXXXX

FIGURE 3-2 (Cont.)

THE FOLLOWING LOGIC IS USED TO GENERATE SCC IF THE SCC CODE OF THE BEC-SCC CONVERSION TABLE IS 1.

FORMAT OF SCC CODE



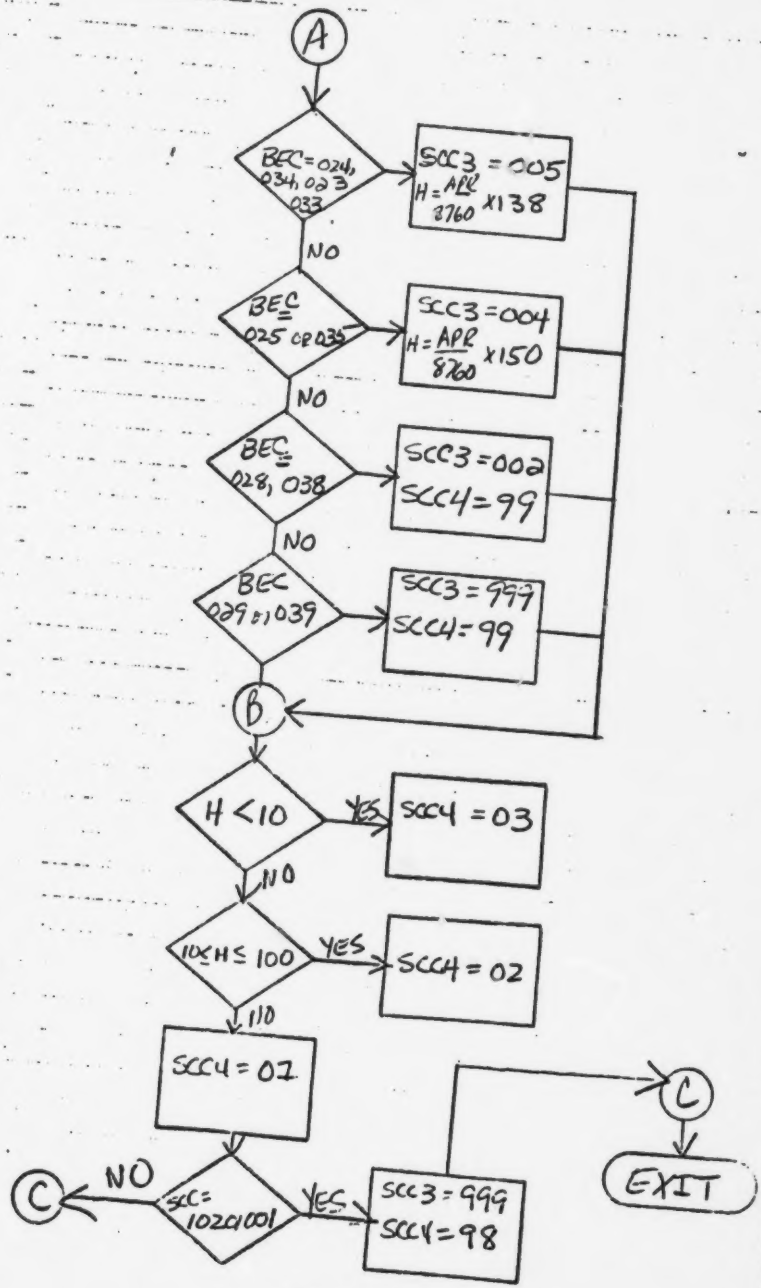




FIGURE 3-2 (Cont.)

## 3.2 INPUT AND OUTPUT

The required inputs to the program are the Oregon REG and BEC files. The program then processes all records in those files. If it becomes desirable in the future to have the program process only certain records, based on source type, source size, location, or any other parameter, it will be desirable to construct a small program which reads the existing files, and creates new files containing sources which meet the desired criteria. This is a better approach than to try to program all possible options into an already large space-consuming program.

The output from this program is a series of forms patterned after the NEDS coding form. All NEDS applicable data which are present in the Oregon system are printed out on the form, and blanks are left for coding the remaining data by hand. After coding the remaining data, the form can be used as a coding form and key punched from directly. The cards can then be input to the NEDS system. Figure 3-3 is a sample of the output from the system. The BEC Number and the ID Number (from the BEC file) are printed at the bottom of the output coding sheet in addition to the EI Number which is shown.

```
ST   COUN  AQCR   PL ID
38   0120   191    0002
--   ----   ---    ----
12   3  6   7 9  10  13

 CITY   ZN   YR    NAME AND ADDRESS                                    CONTACT        OWN
 3100   11   71    ELLINGSON LUMBER3100 BROADWAY BAKER                 J BROWN                  AP1
 ----   --   --    ------------------------------------------------    ------------   -   ---  ---
14  17 1819 2021 22                                                61 62          73  74 75 77 78 80

 PT   YR   SIC    IP    X       Y       HT    DIA   TEMP    FLOW     PLUME       SAME                                  AP2
 01   71   2421   00    4333    49580                                                                                    ---
 --   --   ----   --    -----   -----   ----  ---   ----    -------  ----   -    ----   ----------------------------   ---
1415 1617 18   21 2223 24   27 28   32 33  36 37 39 40  43 44     50 51  54 55  56  59 60                        77 78 80

 PT   YR    BTU      P1    P2    S1    S2    N1    N2    H1    H2    C1    C2    PE    SE    NE    HE    CE                                AP3
 01   71                                                                                                                                    ---
 --   --    -----    ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ---   ----------              ---
1425 1617 18   22 23 25 26 28 29 31 32 34 35 37 38 40 41 43 44 46 47 49 50 52 53 55 56 58 59 61 62 64 65 67 68          77 78 80

 PT   YR   DJF  MAM  JJA  SON  HR   D    WK    PART      SOX       NOX       HC        CO        P  S  N  H  C  SPHT
 01   71                                        102       0         85        21        17        5  0  5  5  5
 --   --   ---  ---  ---  ---  ---  -    --    -------   -------   -------   -------   -------   -  -  -  -  -  ----  ----
1415 1617 1819 2021 2223 2425 2627 28   2930 31     37 38     44 45     51 52     58 59     65 66  67 68 69 70  71 73 74  77

 PT   YR   AL PART    AL SOX    AL NOX    AL HC     AL CO     CS   YR   MO   YR   MO   DA   E    REG1   REG2   REG3                AP5
 01   71                                                                                                                          ---
 --   --   -------   -------   -------   -------   -------   -    --   --   --   --   --   -    ----   ----   ----   -     ---
1415 1617 18     24 25     31 32     38 39     45 46     52 53   5455 5657 5859 6061 6263 64   65  68 69  72 73  76 77  78 80

 PT   YR    SCC        PROC      MAX       SUL   ASH   HEAT    COMMENTS                    ST   C
 01   71    10200902   17000                                    BARK                        8    2                    AP6
 --   --    --------   -------   -------   ---   ---   -----   ------------------------    -    -    -----   -----  ---
1415 1617 18     25 26     32 33     39 40 42 43 45 46  50 51                        70 71  72   73   77 78 80

    EI = 010003
```

FIGURE 3-3. Sample Output.

# 4.0 SUMMARY

This program serves the purpose of allowing the State of Oregon to maintain its existing data storage system in a form which adequately satisfies their needs. It gives them the capability of producing their inventory in NEDS format to meet any such requirements levied on them by EPA, such as semi-annual reporting. The program in no way affects the Oregon data system; it merely reads the existing files and operates on what it reads.

An attempt was made to write the program in such a way that it would be a relatively easy task to incorporate any future additions to it, or to eliminate portions which lose their usefulness in later years.

## DESCRIPTION OF THE BEC/SCC CONVERSION TABLE

The BEC/SCC Conversion Table is entered using the BEC number from the BEC file as an argument. The following NEDS data elements are extracted from the table.

- SCC Number - Some BEC numbers pertain to area source information. For these BEC's a zero is entered for the SCC number, indicating that the program should ignore these sources. Determination of certain SCC numbers for combustion sources requires the boiler rating. Since this value is unavailable from the Oregon file, it was necessary to calculate an assumed boiler size. This was done using the annual process rate, and an assumed heat content for each of the fuels burned. The assumed heat contents are

| | |
|---|---|
| Residual Oil | 150,000 BTU/gal |
| Distillate Oil | 138,000 BTU/gal |
| LPG | 93,950 BTU/gal |
| Natural Gas | 1,000 BTU/cu. ft. |

- SIC Number - The SIC number required by the NEDS system must be source-specific whereas the SIC number in the Oregon system is plant-specific. Therefore, wherever possible, the BEC number was used in this table to determine the proper SIC number. Where this was impossible, a zero was entered in the SIC column indicating to the program to use the SIC number in the BEC file. Area sources are also indicated in the BEC file by an SIC number of 999X. Any BEC record with such an SIC number is ignored by the program.
- IPP Process Code - This is a code which further defines some SIC numbers. Where applicable, this number is obtained from the table. Non applicability is indicated by a blank.
- Source Type - This is a data element required by NEDS, and is coded as follows:

  P = Process Source
  B = Boiler

S = Solid Waste Disposal Source
C = Combustion, other than a boiler or solid waste source

- Unit Conversion Factor - This factor is multiplied by the annual process rate in the BEC file to correct for differences in process units. A few of the Oregon units could not be converted to NEDS units. In these cases, zero was entered in the table to indicate to the computer that the process rate field on the NEDS form should be left blank.
- Comments - The comments found in the table are printed directly onto the NEDS form in the comments field.

The BEC/SCC conversion table is reproduced on the following pages. The left hand column is the BEC number, and the remaining columns contain the values described above, in the same order in which they are described--SCC, SIC, IPP Process, Type, Unit Conversion Factor, and Comments. When reading the unit conversion factor, it must be understood that there is an assumed decimal point between the fifth and the sixth column (e.g. 000010000 = 1.0).

```
000,10200902,    0,00,B,000010000,HOG FUEL                ,
001,10200902,    0,00,B,000010000,SANDERDUST               ,
002,10200902,    0,00,B,000010000,SHAVINGS                 ,
003,10200902,    0,00,B,000010000,SAWDUST                  ,
004,10200902,    0,00,B,000010000,PULVERIZED WOOD          ,
005,10200902,    0,00,B,000010000,BARK                     ,
006,10200902,    0,00,B,000010000,HOG FUEL/NATURAL GAS,
007,10200902,    0,00,B,000010000,HOG FUEL/LP GAS          ,
008,10200902,    0,00,B,000010000,HOG FUEL/OIL             ,
009,       0,     ,  , ,000000000,                        ,
010,10200902,    0,00,B,000010000,HOG FUEL                ,
011,10200902,    0,00,B,000010000,SANDERDUST               ,
012,10200902,    0,00,B,000010000,SHAVINGS                 ,
013,10200902,    0,00,B,000010000,SAWDUST                  ,
014,10200902,    0,00,B,000010000,PULVERIZED WOOD          ,
015,10200902,    0,00,B,000010000,BARK                     ,
016,10200902,    0,00,B,000010000,HOG FUEL/NATURAL GAS,
017,10200902,    0,00,B,000010000,HOG FUEL/LP GAS          ,
018,10200902,    0,00,B,000010000,HOG FUEL/OIL             ,
019,       0,     ,  , ,000000000,                        ,
020,       0,     ,  , ,000000000,                        ,
021,       1,    0,00,B,000010000,NATURAL GAS             ,
022,       1,    0,00,B,000010000,LIQ PET GAS             ,
023,       1,    0,00,B,000010000,GAS AND OIL             ,
024,       1,    0,00,B,000010000,DIST OIL                ,
025,       1,    0,00,B,000010000,RESID OIL               ,
026,       0,     ,  , ,000000000,                        ,
027,       0,     ,  , ,000000000,                        ,
028,       1,    0,00,B,000010000,COAL                    ,
029,       1,    0,00,B,000010000,REFUSE                  ,
030,       0,     ,  , ,000000000,                        ,
031,       1,    0,00,B,000010000,NATURAL GAS             ,
032,       1,    0,00,B,000010000,LIQ PET GAS             ,
033,       1,    0,00,B,000010000,GAS AND OIL             ,
034,       1,    0,00,B,000010000,DIST OIL                ,
035,       1,    0,00,B,000010000,RESID OIL               ,
036,       0,     ,  , ,000000000,                        ,
037,       0,     ,  , ,000000000,                        ,
038,       1,    0,00,B,000010000,COAL                    ,
039,       1,    0,00,B,000010000,REFUSE                  ,
040,       0,     ,  , ,000000000,                        ,
041,39000699,3260,   ,C,000010000,CERAMIC KILN           ,
042,39099998,3260,   ,C,000010000,CERAMIC KILN LPG       ,
043,39000599,3260,   ,C,000010000,CERAMIC KILN GAS/OIL,
044,39000499,3260,   ,C,000010000,CERAMIC KILN           ,
045,39000599,3260,   ,C,000010000,CERAMIC KILN           ,
046,39099999,3260,   ,C,000010000,CERAMIC KILN WOOD      ,
047,       0,     ,  , ,000000000,                        ,
048,39000299,3260,   ,C,000010000,CERAMIC KILN           ,
049,39099999,3260,   ,C,000010000,CERAMIC KILN REFUSE    ,
050,       0,     ,  , ,000000000,                        ,
051,39000699,    0,  ,C,000010000,HOT OIL HEATER          ,
052,39099998,    0,  ,C,000010000,HOT OIL HEATER LPG      ,
053,39000599,    0,  ,C,000010000,HOT OIL HETR GAS/OIL,
054,39000599,    0,  ,C,000010000,HOT OIL HEATER          ,
055,39000499,    0,  ,C,000010000,HOT OIL HEATER          ,
056,39099999,    0,  ,C,000010000,HOT OIL HEATER WOOD     ,
057,       0,     ,  , ,000000000,                        ,
058,39000299,    0,  ,C,000010000,HOT OIL HEATER          ,
059,39099999,    0,  ,C,000010000,HOT OIL HEATER REFUS,
060,       0,     ,  , ,000000000,                        ,
```

```
061,39000699,   0,   ,C,000010000,HEAT TREAT FCE          ,
062,39099998,   0,   ,C,000010000,HEAT TREAT FCE LPG      ,
063,39000599,   0,   ,C,000010000,HEAT TREAT FCE GS/OL,
064,39000599,   0,   ,C,000010000,HEAT TREAT FCE          ,
065,39000499,   0,   ,C,000010000,HEAT TREAT FCE          ,
066,39099999,   0,   ,C,000010000,HEAT TREAT FCE WOOD     ,
067,       0,   ,   , ,000000000,                         ,
068,39000299,   0,   ,C,000010000,HEAT TREAT FCE          ,
069,39099999,   0,   ,C,000010000,HEAT TREAT FCE REFUS,
070,       0,   ,   , ,000000000,                         ,
071,39000699,   0,   ,C,000010000,SPACE HEATER            ,
072,39099998,   0,   ,C,000010000,SPACE HEATER LPG        ,
073,39000599,   0,   ,C,000010000,SPACE HEATER GAS/OIL,
074,39000599,   0,   ,C,000010000,SPACE HEATER            ,
075,39000499,   0,   ,C,000010000,SPACE HEATER            ,
076,39099999,   0,   ,C,000010000,SPACE HEATER WOOD       ,
077,       0,   ,   , ,000000000,                         ,
078,39000299,   0,   ,C,000010000,SPACE HEATER            ,
079,39099999,   0,   ,C,000010000,SPACE HEATER REFUSE     ,
080,       0,   ,   , ,000000000,                         ,
081,39000699,   0,   ,C,000010000,WATER HEATER            ,
082,39099998,   0,   ,C,000010000,WATER HEATER LPG        ,
083,39000599,   0,   ,C,000010000,WATER HEATER GAS/OIL,
084,39000599,   0,   ,C,000010000,WATER HEATER            ,
085,39000499,   0,   ,C,000010000,WATER HEATER            ,
086,39099999,   0,   ,C,000010000,WATER HEATER WOOD       ,
087,       0,   ,   , ,000000000,                         ,
088,39000299,   0,   ,C,000010000,WATER HEATER            ,
089,39099999,   0,   ,C,000010000,WATER HEATER REFUSE     ,
090,39000999,   0,   ,C,000010000,MISC COMB HOG FUEL      ,
091,39000999,   0,   ,C,000010000,MISC COMB SANDERDUST,
092,39000999,   0,   ,C,000010000,MISC COMB SHAVINGS      ,
093,39000999,   0,   ,C,000010000,MISC COMB SAWDUST       ,
094,39000999,   0,   ,C,000010000,MISC COMB PULV WOOD     ,
095,39000999,   0,   ,C,000010000,MISC COMB BARK          ,
096,39000999,   0,   ,C,000010000,MISC COMB HOG/NATGAS,
097,39000999,   0,   ,C,000010000,MISC COMB HOG/LP GAS,
098,39000999,   0,   ,C,000010000,MISC COMB HOG/OIL       ,
099,       0,   ,   , ,000000000,                         ,
100,30400102,3341,02,P,000010000,                         ,
101,30400202,3341,06,P,000010000,                         ,
102,30400202,3341,06,P,000010000,                         ,
103,30400330,3321,   ,P,000010000,                        ,
104,30400499,3369,   ,P,000010000,CRUCIBLE                ,
105,30400699,3341,   ,P,000010000,CRUCIBLE                ,
106,30400799,3323,   ,P,000010000,CRUCIBLE                ,
107,30499999,3341,   ,P,000010000,TIN AND SOLDER CRUC     ,
108,30400899,3369,   ,P,000010000,CRUCIBLE                ,
109,30499999,3341,   ,P,000010000,MISC.METALS CRUCIBLE,
110,30400199,3341,   ,P,000010000,CUPOLA                  ,
111,30400203,3341,   ,P,000010000,                        ,
112,30400203,3341,   ,P,000010000,                        ,
113,30400301,3321,01,P,000010000,                         ,
114,30400403,3369,01,P,000010000,                         ,
115,30400699,3341,   ,P,000010000,CUPOLA                  ,
116,30400799,3323,   ,P,000010000,CUPOLA                  ,
117,30499999,3341,   ,P,000010000,TIN AND SOLDER CUPOL,
118,30400899,3369,   ,P,000010000,CUPOLA                  ,
119,30499999,3341,   ,P,000010000,MISC.METALS CUPOLA      ,
120,30400199,3341,   ,P,000010000,ELECT.ARC               ,
121,30400299,3341,07,P,000010000,ELECT.ARC                ,
```

```
122,30400299,3341,07,P,000010000,ELECT.ARC          ,
123,30400399,3321,  ,P,000010000,ELECT ARC          ,
124,30400499,3369,  ,P,000010000,ELECT ARC          ,
125,30400699,3341,  ,P,000010000,ELECT ARC          ,
126,30400701,3323,01,P,000010000,                   ,
127,30499999,3341,  ,P,000010000,TIN & SOLD ELECT ARC,
128,30400899,3369,  ,P,000010000,ELECT. ARC         ,
129,30499999,3341,  ,P,000010000,MISC METAL ELECT ARC,
130,30400199,3341,  ,P,000010000,ELECT INDUCT & RESIS,
131,30400204,3341,07,P,000010000,                   ,
132,30400204,3341,07,P,000010000,                   ,
133,30400303,3321,  ,P,000010000,                   ,
134,30400499,3369,  ,P,000010000,ELECT INDUCT & RESIS,
135,30400699,3341,  ,P,000010000,ELECT INDUCT & RESIS,
136,30400705,3323,02,P,000010000,                   ,
137,30499999,3341,  ,P,000010000,TIN & SOLD ELECT IND,
138,30400899,3369,  ,P,000010000,ELECT INDUCT & RESIS,
139,30499999,3341,  ,P,000010000,MISC METAL ELECT IND,
140,30400199,3341,  ,P,000010000,POT FURNACE        ,
141,30400299,3341,  ,P,000010000,POT FURNACE        ,
142,30400299,3341,  ,P,000010000,POT FURNACE        ,
143,30400399,3321,  ,P,000010000,POT FURNACE        ,
144,30400401,3369,02,P,000010000,                   ,
145,30400601,3341,  ,P,000010000,                   ,
146,30400799,3323,  ,P,000010000,POT FURNACE        ,
147,30499999,3341,  ,P,000010000,TIN & SOLD POT FURN,
148,30400803,3369,06,P,000010000,                   ,
149,30499999,3341,  ,P,000010000,MISC METAL POT FURN,
150,30400199,3341,  ,P,000010000,RETORT FURNACE     ,
151,30400299,3341,  ,P,000010000,RETORT FURNACE     ,
152,30400299,3341,  ,P,000010000,RETORT FURNACE     ,
153,30400399,3321,  ,P,000010000,RETORT FURNACE     ,
154,30400499,3369,02,P,000010000,RETORT FURNACE     ,
155,30400699,3341,  ,P,000010000,RETORT FURNACE     ,
156,30400799,3323,  ,P,000010000,RETORT FURNACE     ,
157,30499999,3341,  ,P,000010000,TIN & SOLD RETORT  ,
158,30400801,3369,06,P,000010000,                   ,
159,30499999,3341,  ,P,000010000,MISC METAL RETORT  ,
160,30400103,3341,03,P,000010000,                   ,
161,30400205,3341,08,P,000010000,                   ,
162,30400205,3341,08,P,000010000,                   ,
163,30400302,3321,03,P,000010000,                   ,
164,30400402,3369,03,P,000010000,                   ,
165,30400699,3341,  ,P,000010000,REVERB-OPEN HEARTH ,
166,30400702,3323,03,P,000010000,                   ,
167,30499999,3341,  ,P,000010000,TIN & SOLDER REVERB,
168,30400808,3369,  ,P,000010000,                   ,
169,30499999,3341,  ,P,000010000,MISC METALS REVERB ,
170,30400199,3341,  ,P,000010000,ROTARY FURNACE     ,
171,30400206,3341,09,P,000010000,                   ,
172,30400206,3341,09,P,000010000,                   ,
173,30400399,3321,  ,P,000010000,ROTARY FURNACE     ,
174,30400404,3369,  ,P,000010000,                   ,
175,30400699,3341,  ,P,000010000,ROTARY FURNACE     ,
176,30400799,3323,  ,P,000010000,ROTARY FURNACE     ,
177,30499999,3341,  ,P,000010000,TIN & SOLDER ROTARY,
178,30400899,3369,  ,P,000010000,ROTARY FURNACE     ,
179,30499999,3341,  ,P,000010000,MISC. METALS ROTARY,
180,30400101,3341,04,P,000010000,                   ,
181,30400299,3341,  ,P,000010000,SWEAT FURNACE      ,
182,30400299,3341,  ,P,000010000,SWEAT FURNACE      ,
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183,30400399,3321,   ,P,000010000,SWEAT FURNACE          ,
184,30400499,3369,03,P,000010000,SWEAT FURNACE          ,
185,30400699,3341,   ,P,000010000,SWEAT FURNACE          ,
186,30400799,3323,   ,P,000010000,SWEAT FURNACE          ,
187,30499999,3341,   ,P,000010000,TIN & SOLD SWEAT FCE,
188,30400804,3369,07,P,000010000,                        ,
189,30499999,3341,   ,P,000010000,MISC METAL SWEAT FCE,
190,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
191,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
192,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
193,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
194,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
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196,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
197,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
198,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
199,30499999,3341,   ,P,000010000,MISC METAL MISC FCE ,
200,50200101,4953,03,S,000010000,                        ,
201,50200101,4953,03,S,000010000,                        ,
202,50300101,4953,03,S,000010000,                        ,
203-50300101,4953,03,S,000010000,                        ,
204,50300101,4953,03,S,000010000,                        ,
205,50300101,4953,03,S,000010000,                        ,
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209,50100101,4953,03,S,000010000,                        ,
210,50200101,4953,03,S,000010000,                        ,
211,50200101,4953,03,S,000010000,                        ,
212,50300101,4953,03,S,000010000,                        ,
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221,50200505,4953,03,S,000010000,                        ,
222,50300101,4953,03,S,000010000,                        ,
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225,50300101,4953,03,S,000010000,                        ,
226,50300101,4953,03,S,000010000,                        ,
227,50100505,4953,03,S,000010000,                        ,
228,50100505,4953,03,S,000010000,                        ,
229,50100505,4953,03,S,000010000,                        ,
230,50200505,4953,03,S,000010000,                        ,
231,50200505,4953,03,S,000010000,                        ,
232,50300101,4953,03,S,000010000,                        ,
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236,50300101,4953,03,S,000010000,                        ,
237,50100505,4953,03,S,000010000,                        ,
238,50100505,4953,03,S,000010000,                        ,
239,50100505,4953,03,S,000010000,                        ,
240,50200505,4953,03,S,000010000,                        ,
241,50200505,4953,03,S,000010000,                        ,
242,50300101,4953,03,S,000010000,                        ,
243,50300101,4953,03,S,000010000,                        ,
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244,50300101,4953,03,S,000010000,
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279,50100102,4953,04,S,000010000,
280,50300105,4953,06,S,000010000,
281,50200102,4953,04,S,000010000,
282,50200101,4953,03,S,000010000,
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284,       0,    ,  , ,000000000,
285,50100202,4953,02,S,000010000,
286,       0,    ,  , ,000000000,
287,       0,    ,  , ,000000000,
288,       0,    ,  , ,000000000,
289,50200301,4953,05,S,000010000,
290,50300599,4953,06,S,000010000,BURN-OFF INCIN
291,50300301,4953,06,S,000005000,
292,50300599,4953,06,S,000010000,BRAKE DEBINDER
293,50300599,4953,06,S,000010000,ORGANICS AND GASES
294,50100101,4953,01,S,000010000,
295,50300599,4953,06,S,000010000,PIT INCIN
296,50200599,4953,06,S,000010000,BURNING BARREL
297,50100201,4953,02,S,000010000,
298,50300201,4953,02,S,000010000,
299,50100201,4953,02,S,000010000,
300,30699999,2911,08,P,010000000,ALKYLATION-HF
301,30699999,2911,08,P,010000000,ALKYLATION-H2SO4
302,30601101,2911,08,P,000010000,
303,30601199,2911,08,P,000010000,ASPH.SEPARATION
304,30699999,2911,08,P,010000000,BLENDING
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305,30699998,2911,08,P,000010000,COKING
306,30600803,2911,08,P,000000000,
307,30600201,2911,01,P,000010000,
308,30600301,2911,02,P,000010000,
309,30699999,2911,08,P,010000000,THERMAL CRACKING
310,30699999,2911,08,P,010000000,CPUDE PROCESSING
311,30699999,2911,08,P,010000000,CRUDE OIL PRODUCTION,
312,30699999,2911,03,P,010000000,DESULFURIZATION
313,30699999,2911,08,P,010000000,DISTILLATION
314,30699999,2911,08,P,010000000,EMULSIFICATION
315,30699999,2911,08,P,010000000,SO2 EXTRACTION
316,30699999,2911,08,P,010000000,FURFURAL EXTRACTION
317,30699999,2911,08,P,000000000,GAS DEHYD
318,30699999,2911,08,P,010000000,REGEN ISOMERIZATION
319,30699998,2911,08,P,000010000,LOADING
320,30699999,2911,08,P,010000000,LUBE OIL COMPOUNDING,
321,30600804,2911,08,P,000000000,COMPRESS PLANT
322,30699999,2911,08,P,000000000,ODORIZER MANUF.
323,30699999,2911,08,P,000000000,PERMEATIONS
324,30699998,2911,08,P,000010000,PILOT PLANT
325,30699999,2911,08,P,010000000,POLYMERIZATION
326,30699999,2911,08,P,010000000,FIX BED REFORMING
327,30699999,2911,08,P,010000000,MOVE BED REFORMING
328,30699999,2911,04,P,010000000,LUBE OIL RE-REFINING,
329,40399999,5092,  ,P,000420000,FIXED ROOF OPEN TOP
330,30699999,2911,08,P,000238100,TREATING(ACID&CAUST),
331,30699999,2911,08,P,010000000,TREATING (CLAY)
332,30699999,2911,08,P,010000000,TREATING(OXID.SWEET),
333,30699999,2911,08,P,010000000,TREATING (COPPER)
334,30699999,2911,08,P,000000000,TREAT H2SREMOV
335,30699999,2911,08,P,010000000,TREATING DESALTING
336,30699999,2911,08,P,000000000,MERCAPTAN REMOV
337,30699999,2911,08,P,010000000,VAC DISTILL CRUDE
338,30699999,2911,08,P,010000000,VAC DISTILL OTHER
339,30699999,2911,08,P,000000000,WASTE WATER HANDLING,
340,30699999,2911,08,P,000000000,WATER TREATING UNIT
341,30699998,2911,08,P,000010000,REFRIG.& COOLING SYS,
342,30699999,2911,06,P,010000000,TOPPING
343,30600999,2911,08,P,010000000,
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345,       0,   ,  , ,000000000,
346,       0,   ,  , ,000000000,
347,       0,   ,  , ,000000000,
348,       0,   ,  , ,000000000,
349,30103401,2869,  ,P,000010000,AMINES
350,30199999,2869,  ,P,000010000,ACETALDEHYDE
351,30199999,2813,  ,P,000010000,ACETYLENE
352,30199999,2869,  ,P,000010000,ACROLEIN
353,30199999,2911,  ,P,000010000,ACID OIL
354,30199999,2869,  ,P,000010000,ALIPHATIC ACIDS
355,30199999,2869,  ,P,000032930,ALIPHATIC ALCOHOLS
356,30199999,2911,  ,P,000010000,AROMATIC ANHYDRIDE
357,30199999,2911,  ,P,000010000,BENZENE
358,30199999,2911,  ,P,000010000,BUTADIENE
359,30199999,2869,  ,P,000010000,BUTYENES
360,30199999,2865,  ,P,000010000,CRESOLS
361,30199999,2869,  ,P,000010000,CUMENE
362,30199999,2865,  ,P,000010000,CYCLOHEXENE
363,30100999,2841,  ,P,000010000,DETERGENTS
364,30100999,2841,  ,P,000010000,DETERGENTS
365,30199999,2869,  ,P,000010000,ETHYL BENEXENE
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305,30699998,2911,08,P,000010000,COKING                    ,
306,30600803,2911,08,P,000000000,                           ,
307,30600201,2911,01,P,000010000,                           ,
308,30600301,2911,02,P,000010000,                           ,
309,30699999,2911,08,P,010000000,THERMAL CRACKING           ,
310,30699999,2911,08,P,010000000,CRUDE PROCESSING           ,
311,30699999,2911,08,P,010000000,CRUDE OIL PRODUCTION,
312,30699999,2911,03,P,010000000,DESULFURIZATION            ,
313,30699999,2911,08,P,010000000,DISTILLATION               ,
314,30699999,2911,08,P,010000000,EMULSIFICATION             ,
315,30699999,2911,08,P,010000000,SO2 EXTRACTION             ,
316,30699999,2911,08,P,010000000,FURFURAL EXTRACTION        ,
317,30699999,2911,08,P,000000000,GAS DEHYD                  ,
318,30699999,2911,08,P,010000000,REGEN ISOMERIZATION        ,
319,30699998,2911,08,P,000010000,LOADING                    ,
320,30699999,2911,08,P,010000000,LUBE OIL COMPOUNDING,
321,30600804,2911,08,P,000000000,COMPRESS PLANT             ,
322,30699999,2911,08,P,000000000,ODORIZER MANUF.            ,
323,30699999,2911,08,P,000000000,PERMEATIONS                ,
324,30699998,2911,08,P,000010000,PILOT PLANT                ,
325,30699999,2911,08,P,010000000,POLYMERIZATION             ,
326,30699999,2911,08,P,010000000,FIX BED REFORMING          ,
327,30699999,2911,08,P,010000000,MOVE BED REFORMING         ,
328,30699999,2911,04,P,010000000,LUBE OIL RE-REFINING,
329,40399999,5092,  ,P,000420000,FIXED ROOF OPEN TOP        ,
330,30699999,2911,08,P,000238100,TREATING(ACID&CAUST),
331,30699999,2911,08,P,010000000,TREATING (CLAY)            ,
332,30699999,2911,08,P,010000000,TREATING(OXID.SWEET),
333,30699999,2911,08,P,010000000,TREATING (COPPER)          ,
334,30699999,2911,08,P,000000000,TREAT H2SREMOV             ,
335,30699999,2911,08,P,010000000,TREATING DESALTING         ,
336,30699999,2911,08,P,000000000,MERCAPTAN REMOV            ,
337,30699999,2911,08,P,010000000,VAC DISTILL CRUDE          ,
338,30699999,2911,08,P,010000000,VAC DISTILL OTHER          ,
339,30699999,2911,08,P,000000000,WASTE WATER HANDLING,
340,30699999,2911,08,P,000000000,WATER TREATING UNIT        ,
341,30699998,2911,08,P,000010000,REFRIG.& COOLING SYS,
342,30699999,2911,08,P,010000000,TOPPING                    ,
343,30600999,2911,08,P,010000000,                           ,
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345,        0,    ,  , ,000000000,                          ,
346,        0,    ,  , ,000000000,                          ,
347,        0,    ,  , ,000000000,                          ,
348,        0,    ,  , ,000000000,                          ,
349,30103401,2869,  ,P,000010000,AMINES                     ,
350,30199999,2869,  ,P,000010000,ACETALDEHYDE               ,
351,30199999,2813,  ,P,000010000,ACETYLENE                  ,
352,30199999,2869,  ,P,000010000,ACROLEIN                   ,
353,30199999,2911,  ,P,000010000,ACID OIL                   ,
354,30199999,2869,  ,P,000010000,ALIPHATIC ACIDS            ,
355,30199999,2869,  ,P,000032930,ALIPHATIC ALCOHOLS         ,
356,30199999,2911,  ,P,000010000,AROMATIC ANHYDRIDE         ,
357,30199999,2911,  ,P,000010000,BENZENE                    ,
358,30199999,2911,  ,P,000010000,BUTADIENE                  ,
359,30199999,2869,  ,P,000010000,BUTYENES                   ,
360,30199999,2865,  ,P,000010000,CRESOLS                    ,
361,30199999,2869,  ,P,000010000,CUMENE                     ,
362,30199999,2865,  ,P,000010000,CYCLOHEXANE                ,
363,30100999,2841,  ,P,000010000,DETERGENTS                 ,
364,30100999,2841,  ,P,000010000,DETERGENTS                 ,
365,30199999,2869,  ,P,000010000,ETHYL BENEXENE             ,
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366,30199999,2869,   ,P,000010000,ETHYLENE                ,
367,30199999,2869,   ,P,000010000,ETHYLENE DICHLORIDE     ,
368,30199999,2869,   ,P,000010000,ETHYLENE GLYCOL          ,
369,30199999,2869,   ,P,000010000,ETHYLENE OXIDE           ,
370,30199999,2869,   ,P,000010000,FORMALDEHYDE             ,
371,30199999,2879,   ,P,000010000,INSECTICIDE              ,
372,30199999,2879,   ,P,000010000,INSECTICIDE              ,
373,30199999,2879,   ,P,000010000,INSECTICIDE              ,
374,30199999,2879,   ,P,000010000,INSECTICIDE              ,
375,30199999,2869,   ,P,000010000,ALIPHATIC KETONES        ,
376,30199999,2869,   ,P,000010000,ALIPHATIC MERCAPTANS     ,
377,30199999,2869,   ,P,000010000,HETEROCYCLIC CMPNDS      ,
378,30199999,2865,   ,P,000010000,NAPHTHALENE              ,
379,30199999,2865,   ,P,000010000,PHENOL                   ,
380,30199999,2865,   ,P,000010000,STYRENE                  ,
381,30199999,2821,   ,P,000010000,SYNTHETIC RESN SOLID     ,
382,30199999,2851,   ,P,000010000,METAL NAPHTHANATES       ,
383,30199999,2821,   ,P,000010000,SYNTHETIC RESN LIQ       ,
384,30199999,2865,   ,P,000010000,TOLUENE                  ,
385,30199999,2865,   ,P,000010000,XYLENES                  ,
386,30199999,2869,   ,P,000010000,AROMATIC ESTERS          ,
387,30199999,2869,   ,P,000010000,ALIPH SAT HYDROCARB      ,
388,30199999,2869,   ,P,000010000,ALIPH UNSAT HYDROCA      ,
389,30199999,2869,   ,P,000010000,ALIPHATIC ALCOHOLS       ,
390,30199999,2869,   ,P,000010000,ALIPHATIC ALDEHYDES      ,
391,30199999,2869,   ,P,000010000,ALIPHATIC ACID DERIV     ,
392,30103401,2869,   ,P,000010000,ALIPHATIC AMINES         ,
393,30199999,2869,   ,P,000010000,ALIPH ORG-MET CMPNDS     ,
394,30199999,2911,   ,P,000010000,AROMATIC HYDROCARBON     ,
395,30199999,2911,   ,P,000010000,AROM HYDROXYL DERIV      ,
396,30199999,2911,   ,P,000010000,AROMATIC ALDEHYDES       ,
397,       0,    ,   , ,000000000,                         ,
398,30199999,2869,   ,P,000010000,AROMATIC KETONES         ,
399,30199999,2911,   ,P,000010000,AROMATIC ACIDS           ,
400,30700899,2421,   ,P,000010000,BARKER                   ,
401,30700899,2421,   ,P,000010000,HOG                      ,
402,30700899,2421,   ,P,000010000,PLANER                   ,
403,30700899,2421,   ,P,000010000,SAW                      ,
404,30799999,2421,   ,P,000010000,STEAM KILN 1000 BFLS     ,
405,30700899,2421,   ,P,000010000,CHIPPER                  ,
406,30799999,2421,   ,P,000010000,DRCT KILN 1000 BFLS      ,
407,       0,    ,   , ,000000000,                         ,
408,       0,    ,   , ,000000000,                         ,
409,       0,    ,   , ,000000000,                         ,
410,       0,    ,   , ,000000000,                         ,
411,30700899,    0,   ,P,000000000,VENEER LATHE            ,
412,30700799,    0,   ,P,000010000,PRESS 1000 SQ FT        ,
413,30700601,2421,   ,P,000046000,RESIN TANK               ,
414,30700899,2421,   ,P,000010000,DRUM SANDER              ,
415,30700899,2421,   ,P,000010000,BELT SANDER              ,
416,30700899,2421,   ,P,000010000,NEG AIR TRANS SYSTEM     ,
417,30700701,    0,   ,P,000005500,VENEER DRYER GAS        ,
418,30700701,    0,   ,P,000005500,VENEER DRYER OIL        ,
419,30700701,    0,   ,P,000005500,VENEER DRYER STEAM      ,
420,30700701,    0,   ,P,000005500,VNR DRYER WOOD FIRED     ,
421,       0,    ,   , ,000000000,                         ,
422,       0,    ,   , ,000000000,                         ,
423,       0,    ,   , ,000000000,                         ,
424,       0,    ,   , ,000000000,                         ,
425,30799999,2499,   ,P,000046000,BLENDER                  ,
426,30799999,2499,   ,P,000010000,CLASSIFIER               ,
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427,30799999,2499,   ,P,000010000,FORMING LINE          ,
428,30799999,2499,   ,P,000010000,GRINDERS              ,
429,30799999,2499,   ,P,000010000,DIGESTER COOKER       ,
430,       0,    ,   , ,000000000,                      ,
431,       0,    ,   , ,000000000,                      ,
432,       0,    ,   , ,000000000,                      ,
433,30799999,2499,   ,P,000010000,TRUCK DUMP            ,
434,30799999,2499,   ,P,000010000,CHIPS STORAGE         ,
435,30799999,2499,   ,P,000010000,WET MATT DRYER        ,
436,30700799,2492,   ,P,000010000,PART. DRYER ROTARY    ,
437,30700799,2492,   ,P,000010000,PART DRYR FLUID BED   ,
438,30799999,2421,   ,P,000005500,HRDBRD TEMPRNG OVEN   ,
439,30799999,2421,   ,P,000005500,HRDBRD PRE-DRIER      ,
440,30700199,2621,   ,P,000010000,BLEACHING             ,
441,30700199,2621,   ,P,000000000,CHIP TRNSPRT & STRG   ,
442,30700199,2621,01,P,000010000,DIGESTER, BLOW         ,
443,30700199,2621,   ,P,000010000,DIGESTER, RELIEF      ,
444,30700104,2621,   ,P,000010000,DRCT CNTCT EVPRTR     ,
445,30700103,2621,05,P,000010000,MULT EFFCT EVPRTR      ,
446,30700106,2621,03,P,000010000,LIME KILN              ,
447,30700199,2621,   ,P,000010000,BLCK LIQ STRG TANK    ,
448,30700199,2621,   ,P,000000000,LIQ TRTMT LAGOON      ,
449,30700199,2621,   ,P,000010000,MARKET PULP SYSTEM    ,
450,30700199,2621,   ,P,000000000,PAPER MACH DRYER      ,
451,30700102,2621,   ,P,000010000,PULP WASHERS          ,
452,30700104,2621,04,P,000010000,RECOVERY FURNACE       ,
453,30700199,2621,   ,P,000000000,SEWER VENTS           ,
454,30700105,2621,02,P,000010000,SMELT TANK VENT        ,
455,30700199,2621,   ,P,000000000,TALL OIL HANDLING     ,
456,30700107,2621,   ,P,000000000,TURPENTINE SYSTEM     ,
457,       0,    ,   , ,000000000,                      ,
458,       0,    ,   , ,000000000,                      ,
459,       0,    ,   , ,000000000,                      ,
460,       0,    ,   , ,000000000,                      ,
461,       0,    ,   , ,000000000,                      ,
462,       0,    ,   , ,000000000,                      ,
463,       0,    ,   , ,000000000,                      ,
464,       0,    ,   , ,000000000,                      ,
465,30700299,2621,   ,P,000010000,ACID MAKING           ,
466,30700299,2621,   ,P,000010000,ACID HANDLING         ,
467,30700299,2621,   ,P,000010000,ASH SLAKER            ,
468,30700299,2621,   ,P,000010000,BLEACHING             ,
469,30700299,2621,   ,P,000000000,CHIP HNDLNG & STRG    ,
470,30700203,2621,   ,P,000010000,DIGESTER, BLOW        ,
471,30700203,2621,   ,P,000010000,DIGESTER, RELIEF      ,
472,30700299,2621,   ,P,000010000,FORTIFICATION TOWER   ,
473,30700205,2621,   ,P,000010000,DRCT CNTCT EVAPORATR,
474,30700299,2621,   ,P,000000000,PAPER MACHINE VENTS   ,
475,30700299,2621,   ,P,000010000,PULP WASHER           ,
476,30700299,2621,   ,P,000010000,RECOVERY FURNACE      ,
477,30700299,2621,   ,P,000010000,SLUDGE INCINERATOR    ,
478,30700299,2621,   ,P,000000000,WASTE LIQUOR LAGOONS,
479,30700205,2621,   ,P,000010000,MULT EFFCT EVAPORATR,
480,       0,    ,   , ,000000000,                      ,
481,       0,    ,   , ,000000000,                      ,
482,       0,    ,   , ,000000000,                      ,
483,       0,    ,   , ,000000000,                      ,
484,       0,    ,   , ,000000000,                      ,
485,       0,    ,   , ,000000000,                      ,
486,       0,    ,   , ,000000000,                      ,
487,       0,    ,   , ,000000000,                      ,
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488,        0,     ,   , ,000000000,                          ,
489,        0,     ,   , ,000000000,                          ,
490,        0,     ,   , ,000000000,                          ,
491,        0,     ,   , ,000000000,                          ,
492,        0,     ,   , ,000000000,                          ,
493,        0,     ,   , ,000000000,                          ,
494,        0,     ,   , ,000000000,                          ,
495,        0,     ,   , ,000000000,                          ,
496,        0,     ,   , ,000000000,                          ,
497,        0,     ,   , ,000000000,                          ,
498,        0,     ,   , ,000000000,                          ,
499,        0,     ,   , ,000000000,                          ,
500,        0,     ,   , ,000000000,                          ,
501,30199999,2899,   ,P,000010000,ORGANIC CHEMICALS          ,
502,30199999,2899,   ,P,000010000,INORGANIC CHEMICALS        ,
503,        0,     ,   , ,000000000,                          ,
504,        0,     ,   , ,000000000,                          ,
505,39999999,   0,   ,P,000010000,GAS CLOTHES DRYER          ,
506,40100102,7216,   ,P,000325000,                           ,
507,40100299,   0,   ,P,000067500,                           ,
508,40100102,7216,   ,P,000325000,SAFETY 140                 ,
509,40100101,7216,   ,P,000500000,                           ,
510,39999999,   0,   ,P,000010000,CHIP DRYER                 ,
511,        0,     ,   , ,000000000,                          ,
512,30299998,5159,   ,P,000010000,HAIR & FEATHER DRYER,
513,49099999,   0,   ,P,000041720,SOLVNT RMOVL DRYER         ,
514,30299998,   0,   ,P,000010000,DRYER                      ,
515,        0,     ,   , ,000000000,                          ,
516,        0,     ,   , ,000000000,                          ,
517,30999999,3479,   ,P,000010000,CHEM MILLING & ETCH        ,
518,30901099,3471,   ,P,000010000,CHROME PLATING             ,
519,30999999,   0,   ,P,000010000,ELECTROLYTIC PROCESS,
520,        0,     ,   , ,000000000,                          ,
521,20299997,   0,   ,P,000000000,ENGINE TEST CELL           ,
522,40299999,   0,   ,P,000062500,FLOWCOATER                 ,
523,30201301,2013,   ,P,000010000,                           ,
524,30299998,   0,   ,P,000041700,DEEP FAT FRYING            ,
525,30200299,2095,   ,P,000010000,                           ,
526,30299999,   0,   ,P,000010000,FOOD BEV PROC EQUIP        ,
527,        0,     ,   , ,000000000,                          ,
528,30501401,   0,   ,P,000010000,                           ,
529,30501799,3296,   ,P,000010000,                           ,
530,30599999,   0,   ,P,000010000,NON-METALLIC FURNACE,
531,        0,     ,   , ,000000000,                          ,
532,        0,     ,   , ,000000000,                          ,
533,39999999,   0,   ,P,000010000,PLASTIC FORMNG EQUIP,
534,30400805,3479,   ,P,000010000,                           ,
535,        0,     ,   , ,000000000,                          ,
536,39999999,   0,   ,P,000010000,PLASTIC IMPREGNATORS,
537,30500102,2952,   ,P,000010000,                           ,
538,39999999,3811,   ,P,000000000,LAB EQUIP PRODUCTION,
539,39999999,7391,   ,P,000000000,LABORATORY RESEARCH        ,
540,32099999,3111,   ,P,000010000,LEATHER TANNING            ,
541,39999999,   0,   ,P,000000000,LIQUID MIXERS              ,
542,30101899,3079,   ,P,000010000,PLASTIC ANNEALING          ,
543,39999999,7539,   ,P,000010000,BRAKE LINING BONDING,
544,30599999,3565,   ,P,000010000,CORE BAKING                ,
545,30599999,3565,   ,P,000010000,CORE MOLDING               ,
546,40299999,2752,   ,P,000000000,LITHOGRAPHIC COATING,
547,40200101,3479,   ,P,000062500,PAINT BAKING OVENS         ,
548,30101899,3079,   ,P,000010000,CURING MOLDING PLAST,
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549,40200301,3479,  ,P,000000000,VARNISH BAKING      ,
550,30102699,3567,  ,P,000010000,VULCANIZING OVEN    ,
551,39999999,   0,  ,P,000010000,WAX BURN-OUT OVEN   ,
552,39999999,   0,  ,P,000010000,MISC OVENS          ,
553,39999999,   0,  ,P,000000000,BLENDING TANKS      ,
554,40299999,   0,  ,P,000000000,ROLLER COATER       ,
555,40500101,2752,  ,P,000010000,                    ,
556,30199999,2821,  ,P,000046000,RESIN KETTLE        ,
557,30101501,2851,  ,P,000035000,                    ,
558,30199999,2800,  ,P,000000000,CHEMICAL REACTORS   ,
559,30299998,2077,  ,P,000010000,BLOOD COOKER        ,
560,30299998,2077,  ,P,000010000,FRESH OFFAL COOKER  ,
561,30299998,2077,  ,P,000010000,OLD OFFAL COOKER    ,
562,30299998,2077,  ,P,000010000,FISH VISCERA PRCSSNG,
563,30299998,2077,  ,P,000010000,RENDERING           ,
564,39999999,4952,  ,P,000000000,SEWAGE TREATMENT    ,
565,        0,     ,  ,000000000,                    ,
566,30405001,   0,  ,P,000010000,MOLTEN SALT FURNACE ,
567,49099999,   0,  ,P,000041720,SOLVENT EXTRACTION  ,
568,39999999,   0,  ,P,000000000,CONTAINER FILL STA  ,
569,30599999,   0,  ,P,000042850,ASPHALT DIP TANK    ,
570,30599999,   0,  ,P,000042850,COAL TAR DIP        ,
571,39999999,   0,  ,P,000042000DYE DIP TANK         ,
572,30405001,   0,  ,P,000035250,OIL QUENCH DIP TANK ,
573,40200101,3479,  ,P,000062500,PAINT DIP TANK      ,
574,49099999,   0,  ,P,000041720,PAINT STRIP (SOLVENT,
575,39999999,   0,  ,P,000059100,PLASTIC DIP TANK    ,
576,40199999,   0,  ,P,000041720,SOLVENT DIP TANK    ,
577,39999999,   0,  ,P,000040700,WAX DIP TANK        ,
578,39999999,   0,  ,P,000000000,MISC DIP TANK       ,
579,        0,     ,  ,000000000,                    ,
580,40300201,5171,  ,P,000010000,                    ,
581,40399999,   0,  ,P,000010000,RESIN-VARNISH-PAINT ,
582,40399999,   0,  ,P,000010000,SOLVENT STORAGE     ,
583,40400199,   0,  ,P,000000000,ORGANIC STORAGE TANK,
584,39999999,   0,  ,P,000000000,MISC STORAGE TANK   ,
585,39999999,   0,  ,P,000000000,UNDRGRND STORAGE TNK,
586,        0,     ,  ,000000000,                    ,
587,39999999,   0,  ,P,000000000,VACUUM PUMPING SYST ,
588,39999999,   0,  ,P,000043000,WATER TREAT PLANT   ,
589,39999999,   0,  ,P,000010000,PIPE WRAPPING       ,
590,        0,     ,  ,000000000,                    ,
591,40299999,   0,  ,P,000062500,SPRAY PAINT LAQ ENAM,
592,20100201,   0,  ,C,000000010,                    ,
593,20299998,   0,  ,C,000010000,STA. INT. COMB. ENG.,
594,39999999,   0,  ,P,000000000,WELDING EQUIP.      ,
595,30299999,5812,  ,C,000000000,RESTAURANT HOT SURF ,
596,30299999,5812,  ,C,000000000,RESTAURANT CHARCOAL ,
597,30299999,5812,  ,C,000000000,GAS OR KER REFRIG   ,
598,30299999,5812,  ,C,000000000,RESTAURANT EQUIPMENT,
599,        0,     ,  ,000000000,                    ,
600,        0,     ,  ,000000000,                    ,
601,30502099,3295,  ,P,000010000,ROCK DRYING         ,
602,30501101,3273,  ,P,000005000,DRYING              ,
603,30501101,3273,  ,P,000005000,DRYING              ,
604,30501101,3273,  ,P,000005000,DRYING              ,
605,30500201,2951,  ,P,000010000,                    ,
606,30500701,3241,  ,P,000053300,                    ,
607,30599999,   0,  ,P,000010000,MISC. ROCK DRYER     ,
608,        0,     ,  ,000000000,                    ,
609,        0,     ,  ,000000000,                    ,
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610,        0,     ,  , ,000000000,                          ,
611,        0,     ,  , ,000000000,                          ,
612,        0,     ,  , ,000000000,                          ,
613,        0,     ,  , ,000000000,                          ,
614,        0,     ,  , ,000000000,                          ,
615,        0,     ,  , ,000000000,                          ,
616,30199999,2819,   ,P,000010000,BORAX DRYER               ,
617,30100901,2841,   ,P,000010000,                          ,
618,30103099,2874,   ,P,000010000,FERTIL. DRYER             ,
619,30101899,   0,   ,P,000010000,PLASTIC DRYING            ,
620,30103599,2816,   ,P,000010000,PIGMENT DRYING            ,
621,30103399,2879,   ,P,000010000,DRYING                    ,
622,30100599,2895,   ,P,000010000,DRYING                    ,
623,30601201,2911,07,P,000000000,DRYING                     ,
624,30599999,3274,   ,P,000010000,DOLOMITE DRYING           ,
625,30599999,2819,   ,P,000010000,MAGNESIA DRYING           ,
626,30501501,3275,   ,P,000010000,                          ,
627,30501901,3295,   ,P,000010000,                          ,
628,30199999,2819,   ,P,000010000,CATALYST DRYING           ,
629,30199999,2819,   ,P,000010000,MISC INORG DRYING         ,
630,30199999,2869,   ,P,000010000,MISC ORGANIC DRYING       ,
631,        0,     ,  , ,000000000,                          ,
632,        0,     ,  , ,000000000,                          ,
633,        0,     ,  , ,000000000,                          ,
634,        0,     ,  , ,000000000,                          ,
635,        0,     ,  , ,000000000,                          ,
636,        0,     ,  , ,000000000,                          ,
637,        0,     ,  , ,000000000,                          ,
638,        0,     ,  , ,000000000,                          ,
639,        0,     ,  , ,000000000,                          ,
640,30200899,2048,   ,P,000010000,HAY DRYER                 ,
641,30200799,2048,   ,P,000010000,SEED DRYER                ,
642,30200899,2048,   ,P,000010000,FEED DRYER                ,
643,30200899,2048,   ,P,000010000,MISC FEED DRYER           ,
644,        0,     ,  , ,000000000,                          ,
645,        0,     ,  , ,000000000,                          ,
646,        0,     ,  , ,000000000,                          ,
647,        0,     ,  , ,000000000,                          ,
648,        0,     ,  , ,000000000,                          ,
649,        0,     ,  , ,000000000,                          ,
650,        0,     ,  , ,000000000,                          ,
651,        0,     ,  , ,000000000,                          ,
652,30200730,2041,   ,P,000010000,FLOUR DRYER               ,
653,30200299,2095,   ,P,000010000,COFFEE DRYER              ,
654,30200799,2041,   ,P,000010000,GRAIN DRYER               ,
655,30299998,   0,   ,P,000010000,GRANULAR FOOD DRYER       ,
656,        0,     ,  , ,000000000,                          ,
651,        0,     ,  , ,000000000,                          ,
658,        0,     ,  , ,000000000,                          ,
659,        0,     ,  , ,000000000,                          ,
660,        0,     ,  , ,000000000,                          ,
661,        0,     ,  , ,000000000,                          ,
662,        0,     ,  , ,000000000,                          ,
663,30599999,2819,   ,P,000010000,SILICA DRYER              ,
664,30501801,3295,   ,P,000010000,                          ,
665,30501699,3274,   ,P,000010000,DRYER                     ,
666,30501799,3296,   ,P,000010000,DRYER                     ,
667,30501301,2899,   ,P,000010000,                          ,
668,30501299,3229,   ,P,000010000,DRYER                     ,
669,30599999,3292,   ,P,000010000,ASBESTOS DRYER            ,
670,30599999,3200,   ,P,000010000,MISC MINERALS DRYER       ,
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671,30500701,3241,   ,P,000053300,                          ,
672,30502099,3281,   ,P,000010000,GRANITE DRYER             ,
673,30502499,3295,   ,P,000010000,MAGNESITE DRYER           ,
674,30502599,3295,   ,P,000010000,FOUNDRY SAND DRYER        ,
675,       0,    ,   , ,000000000,                          ,
676,       0,    ,   , ,000000000,                          ,
677,       0,    ,   , ,000000000,                          ,
678,30299998,    0,  ,P,000010000,VEG WASTE DRYER           ,
679,30701099,2499,   ,P,000010000,DRYER                     ,
680,33000199,    0,  ,P,000010000,COT & WOOL DRYER          ,
681,       0,    ,   , ,000000000,                          ,
682,       0,    ,   , ,000000000,                          ,
683,30299998,    0,  ,P,000010000,NUT SHELL DRYER           ,
684,30102699,2822,   ,P,000010000,RUBBER OVEN               ,
685,30299999,    0,  ,P,000010000,SEWAGE DRYING             ,
686,30199999,2851,   ,P,000010000,SOLID SHELLAC DRYER       ,
687,30799999,2842,   ,P,000010000,SWEEP CMPNDS DRYER        ,
688,39999999,    0,  ,P,000010000,NAT ORG MAT DRYER         ,
689,30700899,2421,   ,P,000010000,WOODWORKING DRYER         ,
690,30799999,    0,  ,P,000010000,PAPER DRYING              ,
691,30700701,2435,   ,P,000010000,                          ,
692,30700899,2421,   ,P,000010000,MISC. EQUIP               ,
693,30700899,2421,   ,P,000010000,WOODWORKING DRYER         ,
694,       0,    ,   , ,000000000,                          ,
695,       0,    ,   , ,000000000,                          ,
696,       0,    ,   , ,000000000,                          ,
697,       0,    ,   , ,000000000,                          ,
698,       0,    ,   , ,000000000,                          ,
699,39999999,    0,  ,P,000010000,MISC ABRAS CLEAN EQ        ,
700,       0,    ,   , ,000000000,                          ,
701,30502001,3295,01,P,000010000,                           ,
702,30501101,3273,   ,P,000005000,ROCK GRINDING             ,
703,30501101,3273,   ,P,000005000,GRINDING                  ,
704,30501101,3273,   ,P,000005000,GRINDING                  ,
705,30500202,2951,   ,P,000010000,ROCK GRINDING             ,
706,30500702,3241,   ,P,000053300,GRINDING                  ,
707,30599999,    0,  ,P,000010000,MISC ROCK GRINDING        ,
708,       0,    ,   , ,000000000,                          ,
709,       0,    ,   , ,000000000,                          ,
710,       0,    ,   , ,000000000,                          ,
711,       0,    ,   , ,000000000,                          ,
712,       0,    ,   , ,000000000,                          ,
713,       0,    ,   , ,000000000,                          ,
714,       0,    ,   , ,000000000,                          ,
715,       0,    ,   , ,000000000,                          ,
716,30199999,2819,   ,P,000010000,BORAX GRINDING            ,
717,30100999,2841,   ,P,000010000,SOAP & DET GRINDING       ,
718,30103099,2874,   ,P,000010000,FERTIL. GRINDING          ,
719,30101899,    0,  ,P,000010000,PLASTIC GRINDING          ,
720,30103599,2816,   ,P,000010000,PIGMENT GRINDING          ,
721,30103399,2879,   ,P,000010000,GRINDING                  ,
722,30100599,2895,   ,P,000010000,GRINDING                  ,
723,30601201,2911,07,P,000000000,GRINDING                   ,
724,30599999,3274,   ,P,000010000,DOLOMITE GRINDING         ,
725,30599999,2819,   ,P,000010000,MAGNESIA GRINDING         ,
726,30501502,3275,   ,P,000010000,                          ,
727,30501902,3295,01,P,000010000,                           ,
728,30199999,2819,   ,P,000010000,CAT ALYST GRINDING        ,
729,30199999,2819,   ,P,000010000,MISC INORG GRINDING       ,
730,30199999,2869,   ,P,000010000,MISC ORGANIC GRIND        ,
731,       0,    ,   , ,000000000,                          ,
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732,        0,     ,   , ,000000000,                          ,
733,        0,     ,   , ,000000000,                          ,
734,        0,     ,   , ,000000000,                          ,
735,        0,     ,   , ,000000000,                          ,
736,        0,     ,   , ,000000000,                          ,
737,        0,     ,   , ,000000000,                          ,
738,        0,     ,   , ,000000000,                          ,
739,        0,     ,   , ,000000000,                          ,
740,30200899,2048,     ,P,000010000,HAY GRINDER              ,
741,30200799,2048,     ,P,000010000,SEED GRINDER             ,
742,30200899,2048,     ,P,000010000,FEED GRINDER             ,
743,30200899,2048,     ,P,000010000,MISC FEED GRINDER        ,
744,        0,     ,   , ,000000000,                          ,
745,        0,     ,   , ,000000000,                          ,
746,        0,     ,   , ,000000000,                          ,
747,        0,     ,   , ,000000000,                          ,
748,        0,     ,   , ,000000000,                          ,
749,        0,     ,   , ,000000000,                          ,
750,        0,     ,   , ,000000000,                          ,
751,        0,     ,   , ,000000000,                          ,
752,30200730,2041,     ,P,000010000,FLOUR GRINDING           ,
753,30200299,2095,     ,P,000010000,COFFEE GRINDING          ,
754,30200799,2041,     ,P,000010000,GRAIN GRINDER            ,
755,30299998,   0,     ,P,000010000,GRANULAR FOOD GRIND      ,
756,        0,     ,   , ,000000000,                          ,
757,        0,     ,   , ,000000000,                          ,
758,        0,     ,   , ,000000000,                          ,
759,        0,     ,   , ,000000000,                          ,
760,        0,     ,   , ,000000000,                          ,
761,        0,     ,   , ,000000000,                          ,
762,        0,     ,   , ,000000000,                          ,
763,30599999,2819,     ,P,000010000,SILICA GRINDER           ,
764,30501899,3295,01,P,000010000,GRINDER                     ,
765,30501601,3274,     ,P,000010000,                         ,
766,30501799,3296,     ,P,000010000,GRINDER                  ,
767,30501399,2899,     ,P,000010000,GRINDER                  ,
768,30501299,3229,     ,P,000010000,GRINDER                  ,
769,30599999,3292,     ,P,000010000,ASBESTOS GRINDING        ,
770,30599999,3200,     ,P,000010000,MSC MINERALS GRINDER,
771,        0,     ,   , ,000000000,                          ,
772,30502001,3281,     ,P,000010000,GRANITE                  ,
773,30502499,3295,01,P,000010000,MAGNESITE GRINDER           ,
774,30502501,3295,01,P,000010000,FOUNDRY SAND GRINDER,
775,        0,     ,   , ,000000000,                          ,
776,        0,     ,   , ,000000000,                          ,
777,        0,     ,   , ,000000000,                          ,
778,30299998,   0,     ,P,000010000,VEG WASTE GRINDER        ,
779,30701099,2499,     ,P,000010000,GRINDER                  ,
780,33000199,   0,     ,P,000010000,COTTON &WOOL CUTTING,
781,30299998,2048,     ,P,000010000,FEATHER GRINDING         ,
782,30299998,   0,     ,P,000010000,HAIR GRINDING            ,
783,30299998,   0,     ,P,000010000,NUT SHELL GRINDING       ,
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EPA-450/3-74-006

NTIS No. PB 230 930/AS

# ADDENDUM TO

# OREGON EMISSION INVENTORY DATA CONVERSION TO NEDS

**April 1974**

Please add this addendum to your copy of the U.S. Environmental Protection Agency Report No. EPA-450/3-74-006.

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# 1.0 INTRODUCTION

As described in the Final Report, all information required by the National Emissions Data System (NEDS) is not available from the Oregon computer storage system. Some of the missing data are, however, contained in the files located in the four air pollution control offices for the state of Oregon. These offices are located in Portland (two locations), Salem, and Eugene.

TRW had previously been awarded a BOA task to correct and update the Oregon emission inventory, and under this task some of the additional source data were collected. Task 2 (the programming task) was extended to include another four man weeks of labor for the purpose of accumulating the remaining data for all point sources emitting 25 or more tons per year of any one pollutant.

## 2.0 DATA ACCUMULATION

Personnel from the Oregon Department of Environmental Quality in Portland ran a program against their data system which printed two listings. The first was a list of all sources emitting 100 tons or more per year, and the second was a list of sources emitting between 25 and 100 tons per year. They also ran the TRW program on the same two classes of sources, generating two groups of NEDS coding forms, completed to the extent described in the main report.

All information for sources on the lists was removed from the files and manually studied. Any available data required by NEDS but not already coded, were extracted and entered on the forms. The additional data were taken from permit applications, monitoring reports, stack test reports, and communications. In some cases where these sources of data were not sufficient, engineers from the state of Oregon supplied data from their own personal knowledge of the plant.

## 3.0 RESULTS

This effort resulted in the coding of all data applicable to NEDS which are present in the Oregon DEQ offices for sources emitting 25 or more tons per year. The facilities and point sources are distributed in the following manner. There are 237 facilities (consisting of approximately 2500 point sources) emitting 100 or more tons, and 214 facilities (approximately 500 point sources) emitting between 25 and 100 tons.

As a result of this effort, EPA now has a relatively complete and current emissions inventory of all significant point sources in the state of Oregon. Due to the fact that Oregon's permit, compliance, and enforcement programs have a different focal point from NEDS (Oregon lacks the need for extensive air quality modeling) some minor areas of the NEDS inventory are noticeably deficient. This occurs predominantly in the area of stack parameters. However, the more important data such as location, emissions, and process rates are present for all sources.

The consideration and cooperation extended TRW by the Oregon personnel, particularly Mr. Richard Vogt, were greatly appreciated, and were definitely contributing factors in the successful completion of the task.